جامعة الدوحة
للعلوم والتكنولوجيا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY

UDST ACADEMIC CATALOG 2024–2025

University of Doha for Science & Technology
Academic Catalog 2024 – 2025

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Welcome to University of Doha for Science & Technology

UDST Story

University of Doha for Science & Technology (UDST) was officially established by the Emiri Decision No.13 of 2022, and it is the first national university that specializes in academic applied, technical and professional education in the State of Qatar. UDST has over 70 Bachelor's and Master's degree programs, diplomas and certificates. The University houses five Colleges: the College of Business, the College of Computing and Information Technology, the College of Engineering and Technology, the College of Health Sciences and the College of General Education in addition to specialized training centers for individuals and companies. UDST is recognized for its student-centered learning and state-of-the-art facilities. Its world-renowned faculty and researchers work on developing students' skills and help raise well-equipped graduates who are proudly serving different sectors of the economy and contributing to the achievement of human, social and economic development goals nationally and internationally.

Our Vision

UDST shall be a leading institution that promotes excellence in applied education and research, contributing to innovation and sustainable development of the State of Qatar and the global community.

Our Mission

UDST advances quality applied science and technology through agile applied higher education and research for the socio-economic development of the State of Qatar and the world.

Our Core Values

- Integrity: At UDST, we are committed to uphold the values of higher education in our governance and to engage in sound and transparent business to fulfill the trust of the public in all matters.
- Innovation: At UDST, we embrace innovation in education by developing and fostering new ways to teaching, learning and applied research in line with new developments and technologies in relevant fields and providing solutions to real-world problems locally and internationally.
- Quality: At UDST, we are committed to high standards in meeting our educational objectives and students' success, utilizing appropriate evidence to improve teaching, learning, research and overall institutional effectiveness to fulfill both current commitments and future needs and opportunities.
- Sustainability: At UDST, we are committed to environmentally sound development, creating curriculum, research and professional practices that meet the needs of the present without compromising the needs of future generations for a better quality of life.
- Accountability: At UDST, we strive to be held responsible and answerable for the specific results and outcomes of every activity we undertake. We believe in taking ownership of our responsibilities, ensuring that our actions have a tangible impact and contribute to the success of our students and stakeholders.
- Adaptability: At UDST, we anticipate and respond, in a timely manner, to changing economic, social and global changing situations by empowering our graduates through applied learning experiences and by responding to the evolving needs of students, communities and the workforce.

Why UDST?

Our programs encourage students to embrace innovation and prepare them to lead the socio-economic development of Qatar and global markets.

We adopt a student-centered learning approach and provide holistic support services.

Our faculty portray innovation and professional excellence and have extensive experience in their fields of expertise.

Our vibrant campus embraces diversity, encourages inclusivity and empowers its community.

UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY
جامعة الدوحة
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Message from the President

Welcome to University of Doha for Science & Technology (UDST), the First Applied University in Qatar. We would like to greet new and returning students and wish them a successful Academic Year. As a highly acclaimed educational institution and a reference in Technical and Vocational Education and Training, we provide experiential learning in technology-rich classrooms, workshops, laboratories, and simulated environments.

Our Academic Catalog will introduce you to a wide selection of Applied Bachelor's and Master's programs to choose from, in addition to diploma programs, any of which can propel you to exciting and progressive careers in Business, Engineering and Technology, Healthcare, Computing, Information Technology and more. Our curricula are aligned to the requirements of an ever- evolving economy and our learning environment is designed to help students pursue their dreams, excel and reach their highest potential.

UDST prides itself on adopting a student-centered approach led by highly qualified instructors. We provide holistic support services to enrich students' experience within our vibrant campus such as one-on-one tutoring, counseling, international study opportunities, Academic Help Centers, Sport and Wellness facilities and many extra-curricular activities. In addition, we also have a Learning Commons and a well-resourced Library, where advice, support and excellent resources are always available.

In the coming pages, you will be able to thoroughly explore all aspects of the University, as we prepare you for a successful career and give you the ability to lead Qatar towards becoming an advanced society capable of sustainable development, as stated in the Qatar National Vision 2030.

I wish you a fruitful academic year ahead, and if you want more information the Admission and Registration Directorate is always ready to help.

Enjoy being part of the Wolves Community!

Dr. Salem Al-Naemi
President
University of Doha for Science & Technology

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Introduction to the Academic Catalog

Welcome to the University of Doha for Science and Technology's (UDST) Academic Catalog!

This comprehensive guide provides detailed information about UDST's current undergraduate and graduate programs as well as essential details for each master's degree, bachelor's degree, advanced diploma, diploma, and certificate, including:

- Program descriptions;
- Admissions requirements;
- The knowledge, skills, and competencies graduates will demonstrate;
- Recommended course sequencing; and
- Future career pathways and opportunities.

The Catalog also includes essential information for navigating your academic journey:

- Academic calendar of events;
- Regulations governing students' relationships with the University; and
- Tuition and fee information.

UDST showcases its commitment to academic excellence through the careful compilation of this Catalog, which involved collaboration among academic and administrative departments across the institution to ensure its accuracy and relevance. Please note that while the information in the UDST Academic Catalog is generally applied as stated, it undergoes regular review and updates. For the latest information, we encourage you to visit the University's website and consult with your academic department.

Academic Calendar of Events – Fall 2024

Note: The dates listed below are accurate at the time of publication; however, as the academic year unfolds, some dates may be changed to accommodate University or State requirements. All changes to this calendar are posted on the University intranet and will be communicated to students via SMS and/or email.

DATE *tentative	EVENT
Sunday, June 2, 2024*	Fall Registration Opens
Monday, August 19, 2024	Last Day to Register
Tuesday, August 20, 2024	Appeal Application Submission Deadline, 3pm
Wednesday, August 21, 2024	Appeal Hearings Day 1
Thursday, August 22, 2024	Appeal Hearings Day 2
Sunday, August 25, 2024	Start of Term/Faculty Return Date
Monday, August 26, 2024	Deferred Exams
Tuesday, August 27, 2024	First Day of Classes
Tuesday, August 27, 2024	Start of Add/Drop Period
Thursday, August 29, 2024	Deferred Grade Submission Deadline, 12pm
Monday, September 2, 2024	End of Add/Drop Period
Monday, September 2, 2024	Last Day to Withdraw with Full Fees Refund
Monday, September 16, 2024	Last Day to Submit Grades for Spring/Summer Incompletes
Monday, September 23, 2024	Last Day to Withdraw with Prorated Refund
Sunday, October 13, 2024 – Saturday, October 19, 2024	Midterm Evaluations
Sunday, October 20, 2024	Midterm Grade Submission Deadline, 12pm
Thursday, October 24, 2024	Last Day to Withdraw
Tuesday, December 3, 2024	Last Day of Classes
Wednesday, December 4, 2024 – Thursday, December 5, 2024	Professional Development Days (2 days)
Friday, December 6, 2024 – Saturday, December 14, 2024	Final Exams (9 days)
Sunday, December 15, 2024	Final Grade Submission Deadline, 5pm
Sunday, December 15, 2024	Last Working Day for Fall Semester
Sunday, December 15, 2024	End of Fall Term
Monday, December 16, 2024 – Thursday, December 26, 2024	Holiday Break (8 working days)
Wednesday, December 18, 2024	National Day (1 day)
Thursday, December 19, 2024*	Fall Grades Available to Students

*tentative

Academic Calendar of Events – Winter 2025

DATE *tentative	EVENT
Sunday, November 10, 2024	Winter Registration Opens
Sunday, December 15, 2024	Last Day to Register
Thursday, December 19, 2024	Start of Add/Drop Period
Thursday, December 26, 2024	Appeal Application Submission Deadline, 3pm
Sunday, December 29, 2024	Start of Term/Faculty Return Date
Sunday, December 29, 2024	Appeal Hearings Day 1
Monday, December 30, 2024	Appeal Hearings Day 2
Monday, December 30, 2024	Deferred Exams
Tuesday, December 31, 2024	First Day of Classes
Thursday, January 2, 2025	Deferred Grade Submission Deadline, 12pm
Monday, January 6, 2025	End of Add/Drop Period
Monday, January 6, 2025	Last Day to Withdraw with Full Fees Refund
Monday, January 20, 2025	Last Day to Submit Grades for Fall Incompletes
Monday, January 27, 2025	Last Day to Withdraw with Prorated Refund
Tuesday, February 11, 2025	National Sports Day (1 day)
Sunday, February 16, 2025 – Saturday, February 22, 2025	Midterm Evaluations
Sunday, February 23, 2025	Midterm Grade Submission Deadline, 12pm
Tuesday, February 25, 2025	Skills Day (1 day)
Thursday, February 27, 2025	Last Day to Withdraw
Friday, February 28, 2025 – Saturday, March 29, 2025*	Ramadan
Sunday, March 30, 2025 – Thursday, April 3, 2025*	Eid Al-Fitr (5 days)
Tuesday, April 15, 2025	Last Day of Classes
Wednesday, April 16, 2025 - Thursday, April 17, 2025	Professional Development Days (2 days)
Friday, April 18, 2025 – Saturday, April 26, 2025	Final Exams (9 days)
Sunday, April 27, 2025	Final Grade Submission Deadline, 5pm
Sunday, April 27, 2025	Last Working Day for Winter Semester
Sunday, April 27, 2025	End of Winter Term
Monday, April 28, 2025 – Tuesday, April 29, 2025	Semester Break (2 working days)
Thursday, May 1, 2025*	Winter Grades Available to Students

*tentative

Academic Calendar of Events – Spring 2025

DATE *tentative	EVENT
Sunday, March 16, 2025	Spring Registration Opens
Tuesday, April 15, 2025	Last Day to Register
Wednesday, April 30, 2025	Start of Term/Faculty Return Date
Thursday, May 1, 2025	Deferred Exams
Thursday, May 1, 2025	Start of Add/Drop Period
Sunday, May 4, 2025	First Day of Classes
Sunday, May 4, 2025	Appeal Application Submission Deadline, 3pm
Monday, May 5, 2025	Appeal Hearings Day 1
Tuesday, May 6, 2025	Appeal Hearings Day 2
Tuesday, May 6, 2025	Deferred Grade Submission Deadline, 12pm
Thursday, May 8, 2025	End of Add/Drop Period
Thursday, May 8, 2025	Last Day to Withdraw with Full Fees Refund
Thursday, May 22, 2025	Last Day to Submit Grades for Winter Incompletes
Thursday, May 22, 2025	Last Day to Withdraw with Prorated Refund
Thursday, May 22, 2025	Last Day to Withdraw
Sunday, June 8, 2025 – Thursday, June 12, 2025*	Eid Al-Adha (5 days)
Sunday, June 15, 2025	Fall 2025 Registration Opens
Thursday, June 26, 2025	Last Day of Classes
Friday, June 27, 2025 – Wednesday, July 2, 2025	Final Exams (6 days)
Thursday, July 3, 2025	Final Grade Submission Deadline, 5pm
Thursday, July 3, 2025	Last Working Day for Spring Semester
Thursday, July 3, 2025	End of Spring Term
Sunday, July 6, 2025 – Thursday, August 21, 2025	Holiday Break (35 working days)
Thursday, July 10, 2025*	Spring Grades Available to Students

*tentative

List of UDST Programs

Note: Not all programs listed are available for entry each semester. Please check with the Admissions and Registration Directorate to confirm availability of academic programs.

COLLEGE OF BUSINESS (CB)	
PROGRAM	**CREDENTIAL**
Diploma in Accounting	Diploma
Diploma in Healthcare Management	Diploma
Diploma in Human Resource Management	Diploma
Diploma in Marketing	Diploma
Bachelor of Business Administration in Applied Accounting	Bachelor
Bachelor of Business Administration in Banking and Financial Technology	Bachelor
Bachelor of Business Administration in Digital Marketing	Bachelor
Bachelor of Business Administration in Healthcare Management	Bachelor
Bachelor of Business Administration in Human Resource Management	Bachelor
Bachelor of Business Administration in Logistics and Supply Chain Management	Bachelor
Master of Science in Accounting and Finance	Master
Master of Science in Digital Marketing and Entrepreneurship	Master
Master of Science in Human Resource Management	Master

COLLEGE OF COMPUTING AND INFORMATION TECHNOLOGY (CCIT)	
PROGRAM	**CREDENTIAL**
Diploma in Information Systems	Diploma
Diploma in Information Technology	Diploma
Bachelor of Science in Data and Cyber Security	Bachelor
Bachelor of Science in Data Science and Artificial Intelligence	Bachelor
Bachelor of Science in Digital Communication and Media Production	Bachelor
Bachelor of Science in Information Systems	Bachelor
Bachelor of Science in Information Technology	Bachelor
Bachelor of Science in Software Engineering	Bachelor
Master of Science in Artificial Intelligence and Cognitive Cybersecurity	Master

List of UDST Programs

Note: Not all programs listed are available for entry each semester. Please check with the Admissions and Registration Directorate to confirm availability of academic programs.

COLLEGE OF ENGINEERING AND TECHNOLOGY (CET)	
PROGRAM	**CREDENTIAL**
Diploma in Automation and Control Engineering Technology	Diploma
Diploma in Chemical and Processing Engineering Technology	Diploma
Diploma in Construction Engineering Technology	Diploma
Diploma in Electrical Power Engineering Technology	Diploma
Diploma in Mechanical Engineering Technology	Diploma
Diploma in Telecommunications and Network Engineering Technology	Diploma
Advanced Diploma in Automation and Control Engineering Technology	Advanced Diploma
Advanced Diploma in Chemical and Processing Engineering Technology	Advanced Diploma
Advanced Diploma in Construction Engineering Technology	Advanced Diploma
Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology	Advanced Diploma
Advanced Diploma in Maintenance Engineering Technology	Advanced Diploma
Advanced Diploma in Telecommunications and Network Engineering Technology	Advanced Diploma
Bachelor of Science in Chemical Engineering - Processing Engineering	Bachelor
Bachelor of Science in Construction Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering	Bachelor
Bachelor of Science in Marine Engineering	Bachelor
Bachelor of Science in Mechanical Engineering - Maintenance Engineering	Bachelor
Bachelor of Science in Mechanical Engineering - Smart Manufacturing Engineering	Bachelor
Master of Science in Process Safety	Master

List of UDST Programs

TECHNICAN CERTIFICATE PROGRAMS (TCP)	
PROGRAM	**CREDENTIAL**
Technician Certificate – Electrical	Certificate
Technician Certificate – Instrumentation	Certificate
Technician Certificate – Mechanical	Certificate
Technician Certificate – Process Operations	Certificate

TECHNICAN CERTIFICATE (TC) PROGRAMS	
PROGRAM	**CREDENTIAL**
Technician Certificate - Automated Test Equipment Maintenance	Certificate
Technician Certificate - Electro-Mechanic Operation and Maintenance	Certificate
Technician Certificate - Electronics and Telecommunications Systems	Certificate

COLLEGE OF GENERAL EDUCATION (CGE)	
PROGRAM	**CREDENTIAL**
Postgraduate Diploma in STEM/TVET Education	Diploma

COLLEGE OF HEALTH SCIENCES (CHS)	
PROGRAM	**CREDENTIAL**
Diploma in Primary Care Paramedicine	Diploma
Diploma in Pharmacy Technology	Diploma
Diploma in Practical Nursing	Diploma
Bachelor of Science in Dental Hygiene	Bachelor
Bachelor of Science in Environmental Health	Bachelor
Bachelor of Science in Medical Radiography	Bachelor
Bachelor of Science in Midwifery	Bachelor
Bachelor of Science in Nursing	Bachelor
Bachelor of Science in Occupational Health, Safety and Environment	Bachelor
Bachelor of Science in Paramedicine	Bachelor
Bachelor of Science in Pharmacy Technology	Bachelor
Bachelor of Science in Respiratory Therapy	Bachelor
Post Diploma Bachelor of Science in Midwifery	Bachelor
Post-Diploma Bachelor of Science in Nursing	Bachelor
Post-Practical Nursing Bachelor of Science in Nursing	Bachelor
Master of Science in Critical Care Paramedicine	Master
Master of Science in Diabetes Care and Patient Education	Master

List of UDST Programs

FOUNDATION PROGRAM (FP)	
PROGRAM	**CREDENTIAL**
Foundation Program	N/A
Foundation Year in Health Sciences	N/A
Technician Certificate Foundation Program	N/A

Keep clear
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Student Affairs

Vision

Welcome to Student Affairs! Our vision is to cultivate an enriching and supportive university experience for every student. We are dedicated to providing comprehensive support, resources, and opportunities that foster personal, academic, and social development. Our ultimate goal is to create a vibrant and inclusive campus community where every student can thrive and succeed.

Our Commitment

Our team of dedicated professionals within Student Affairs is committed to realizing this vision by:

Establishing a Dynamic Campus Environment: We strive to create a dynamic and engaging campus environment that promotes learning, growth, and holistic development.

Holistic Development: We believe in supporting students' holistic development by offering a wide range of programs, services, and resources that address their academic, personal, and social needs.

Inclusivity: We are dedicated to fostering an inclusive campus community where diversity is celebrated, and every student feels welcomed, respected, and valued.

Our Divisions

Student Affairs comprises several divisions, each playing a vital role in supporting students' success and well-being:

Admissions and Registration Directorate: Assisting students in the admissions and registration processes, ensuring a smooth transition into university life.

Student Engagement: Offering opportunities for students to engage in campus life, leadership development, and community service.

Sport and Wellness: Promoting physical and mental well-being through fitness programs, recreational activities, and wellness initiatives.

Student Central Services: Serving as a central hub for student support services, including career counseling, and academic advising.

Student Counselling and Accessibility: Providing confidential counseling services and accommodations for students with disabilities, ensuring equitable access to education.

Join Us

We invite you to join us in Student Affairs and embark on a journey of personal growth, academic achievement, and community engagement. Together, we will create a university experience that empowers you to reach your fullest potential and make a positive impact on the world.

Welcome to Student Affairs, where your success is our priority!

Student Engagement

We understand that your journey through higher education involves more than just attending classes. It is a transformative period of growth, self-discovery, and exploration. Student Engagement is here to guide and empower you along the way, ensuring that you have the tools and support needed to reach your fullest potential. We curate a wide range of engaging activities and events that promote community involvement, leadership development, and cultural awareness. These opportunities provide a platform for you to connect with fellow students, develop lifelong friendships, and cultivate valuable skills that will serve you well beyond your university years. Student Engagement provides a myriad of opportunities for students on campus, such as:

Student Clubs

Our diverse range of student clubs reflects the unique and dynamic community here at UDST. Whether you're interested in exploring a new hobby, advocating for social causes, embracing cultural diversity, pursuing career-related interests, or simply seeking a community of supportive individuals, there is a club for you.

Student Affairs

Joining a student club not only allows you to pursue your passions outside the classroom, but it also provides a platform for you to develop crucial skills that will benefit you throughout your academic journey and beyond. From honing your leadership abilities to fostering teamwork, communication, and organizational skills, club involvement offers a wealth of opportunities for personal and professional development.

Clubs at UDST:

- African Association
- Art Club
- Arabic Debate Club
- Board Games Club
- Chess Club
- Cooking Club
- Desi Club
- English Debate Club
- Filmmakers Club
- Forever Friends Club
- Korean Club
- Model United Nations Club
- Music Club
- Photography Club
- Rollerblading Club
- Anime Club
- Archery Club
- Automotive Club
- Book Club
- Cycling Club
- Deen Club
- E-gaming Club
- Environment Club
- FIT Club
- Four Paws Club
- Martial Arts Club
- Mosaic Literary Club
- Palestine Club
- Qatari Student Association
- Running Club

Don't see your club on the list? For information on how to start your own club, or general club information, please contact: udstlife@udst.edu.qa

Student Council

The UDST Student Council serves as the official link between the student body and the university administration, faculty, and staff. The Student Council is your voice and your platform for expressing your ideas, suggestions, and needs. The primary goal of the Student Council is to enhance the overall student experience and ensure that your time at UDST is both fulfilling and rewarding.

The UDST Student Council consists of an elected President, Vice-President and Student Representatives across all Colleges. These representatives are passionate about making a positive impact and serving as advocates for the entire student population.

To raise a concern to the Student Council, please contact SCStudentVoice@udst.edu.qa If you are interested in joining the student council, please contact: udstlife@udst.edu.qa

Events and Activities

Throughout the academic year, our dedicated team of Student Engagement professionals, in collaboration with student organizations and campus partners, organizes an extensive range of events that cater to a wide variety of interests and passions. From social gatherings and cultural celebrations to leadership opportunities and volunteering, there is always something happening on campus to pique your interest, such as:

Ahlan New Student Orientation

As you embark on your journey at UDST, our Ahlan New Student Orientation events are designed to help you transition smoothly into campus life. You'll participate in informative sessions, campus tours, social events, and meet other new students, ensuring that you feel welcomed and supported right from the start.

Clubs Festival

UDST's Clubs Festival brings together a wide array of student clubs, societies, and organizations in a lively and engaging atmosphere. You can join a new club and also receive more information about an existing club. This event serves as a platform for clubs to share creative ideas and achievements with the larger university community, while also providing an opportunity for students to explore and discover new clubs that align with their interests.

Festival of Cultures

Every March, we celebrate the rich diversity of our UDST student body during our annual Festival of Cultures event. The Festival of Cultures is a joyous and inclusive event that brings together students, faculty, staff, and the UDST community to experience the richness of various cultures from around the world. It serves as a platform for cultural exchange, fostering mutual respect, understanding, and appreciation among individuals from different backgrounds.

UDST's Got Talent

UDST's Got Talent is a celebration of the diverse talents and passions that thrive within our university. From singers, dancers, and musicians to comedians, artists, and magicians, the stage is set to showcase a wide range of artistic expressions and captivating performances.

De-Stress Fest

This event allows students to take a break from the rigors of academia. We offer stress-relief workshops, mindfulness activities, and relaxation techniques to help students manage the pressures of university life. It's a well-deserved respite to recharge and refocus.

Student Recognition Awards

We gather each year to recognize and celebrate the outstanding contributions of our students at the Student Appreciation Awards. This prestigious event acknowledges leadership and dedication to the university community. It's a night of honor and appreciation for those who make our campus shine.

Volunteer Opportunities

We organize community service events and initiatives that allow you to make a positive impact while developing a sense of social responsibility. Engage in volunteer work, service trips, and fundraising opportunities to experience the joy of serving others and making a difference in the world....and many more!

Would you like to get involved in one of our events? Please contact: udstlife@udst.edu.qa

Student Affairs

International Education

At UDST, we believe in providing our students with a transformative educational experience that prepares them for success in the globalized world. As a division of Student Engagement, International Education is dedicated to offering intercultural experiences that enrich students' understanding of themselves and the world around them.

International Education at UDST aims to cultivate a diverse and inclusive learning environment that fosters global citizenship and equips students with the skills and knowledge necessary for thriving in an international work environment, particularly in the State of Qatar.

What We Offer

Our division offers a wide range of opportunities for students to develop and expand upon 21st-century skills, including:

- Experiential Learning Programs: Hands-on experiences that allow students to apply their knowledge and skills in real-world settings.
- Study Abroad and Volunteer Programs: Engaging opportunities for students to immerse themselves in different cultures through study abroad programs and international volunteer opportunities.
- Global Citizenship: Initiatives that promote both local and global citizenship, encouraging students to become responsible and engaged members of society.
- Conferences and Workshops: Opportunities for students to attend conferences and workshops, where they can network, learn from experts, and stay updated on global issues and trends.
- Language Enhancement: Support for students looking to strengthen their language abilities through language courses and immersion experiences.
- Cultural Awareness: Programs and events that promote cultural awareness and appreciation, fostering a more inclusive and understanding community.
- International Student Support: Dedicated support services for international students, ensuring they feel welcome and supported throughout their academic journey at UDST.

Get in Touch

For more information about International Education at UDST and our offerings, please contact us at 4495-2015 or via email at international.education@udst.edu.qa. We are here to support you in your journey towards becoming a globally competent and culturally aware leader.

International Education, where the world is your classroom and endless opportunities await!

Sport and Wellness

The University proudly offers students a comprehensive menu of sport and wellness focused activities, programs and events, in addition to world class facilities, most of which are free to students. Program and service offerings are continuously growing and evolving in order to respond to current interests. There are team and individual sport and fitness programs, intramural and varsity competitions, and several marque sport events held throughout the year.

Sport and Wellness facilities includes a newly created and dedicated e-gaming lounge, male and female-only lounges, 3G Turf Football Pitch, Natural Grass Cricket Pitch, indoor and outdoor padel courts, outdoor tennis courts, an 8-lane running track, cricket batting cages, beach volleyball court and high-quality team room and changing spaces, separate male and female indoor sport halls, fitness rooms, and 25m swimming pools. We also have a highly popular multi-purpose hall providing 2 multi-use courts suitable for futsal, basketball, volleyball, tennis and handball, three indoor padel courts and two indoor squash courts.

UDST is a proud and active member of the Qatar Collegiate Sport Federation (QCSF), where our varsity teams are engaged in fun and competitive competitions with other universities in Qatar and the GCC. We support the development of both male and female athletes in basketball, football, volleyball, padel and more. Sport and Wellness is committed to the support and development of our elite athletes in both their sport and academics through quality coaches and working closely with the academic support services on campus. We are proud to announce we are now offering scholarship opportunities to our varsity athletes. Our intramural programming, including the development and growth of e-gaming, offers UDST students a recreational and competitive outlet for those looking for organized play between classes.

The Sport and Wellness Aquatics team invites you to our gender segregated indoor swimming pools where you can learn how to swim, take a beginner's course in PADI diving, as well as start your training to become a certified Lifeguard or Swim Instructor Assistant. Our pool services offer lane swimming for those looking for recreational, training or competitive fun, or organized events such as water volleyball, challenges and fun days to ensure there is an option for all our users.

UDST has been awarded the Platinum Level Status as part of FISU's Healthy Campus Program for the second year, recognizing the University as a global leader in wellness, and the only institution in the Middle East with these accolades. Wellness and the promotion of health is integrated into all our programs as a means of helping and facilitating students in achieving their optimal health and well-being. Our FITClub program is the largest club on campus, helping over 900 students and staff start their wellness journey through 1-to-1 consultations, group fitness classes, and nutrition and habit coaching. Our fitness classes also offer a range of options for all ability levels and interests including, AquaFIT, Yoga, SpinFIT, Zumba and more. We are proud to introduce our new state-of-the-art spin studio open to both male and female classes. Sport and Wellness is currently collaborating with the College of Health Sciences and the College of General Education on ground-breaking research to determine the most effective wellness intervention for first semester students, providing students the foundations for academic and personal success.

Sport and Wellness is the largest student employer on Campus and provides job-related training and certifications. Currently, we have positions available in the following areas, health promotions and marketing, events and intramurals, and wellness and research assistants, and more. We promise students an engaging and relevant job experience that promotes readiness for the workplace to accompany their academic learning. Students are encouraged to watch for opportunities in the student employment section on D2L.

For assistance, or to learn more of what UDST Sport and Wellness has to offer, please contact our customer service team at: Tel: 4495-2224 or email: sportandwellnessbooking@udst.edu.qa

Student Affairs

Learner Services

The Office of the Associate Vice President, Student Affairs at UDST advances the mission and vision of the University through its leadership of four essential departments that support the delivery of academic programs while promoting student success and ensuring enrichment and engagement for all.

Admissions and Registration, Student Life, Health and Wellness, Student Success, and Library Services Directorate each play a special role to ensure the UDST student experience is enhanced and enriched to maximize personal growth and professional development. Academic supports, special interest clubs, sports and wellness programs, campus life activities, and international education opportunities all contribute to the engagement of students in academic, co-curricular, and extra-curricular pursuits.

See special sections in this calendar for full information about Admissions and Registration and Student Life, Health and Wellness, and Student Success.

Advanced Writing Center

The Advanced Writing Center assists all program students at UDST with any of their writing needs. Make an appointment or drop in. Located in the Learning Commons, Building 3.

Bookstore

Textbooks and stationeries are available for purchase at the UDST Bookstore from 8:00am - 2:30pm, Sunday-Thursday. Located in Building 16. The bookstore should be visited after consultation with your instructor regarding the books required for your courses.

Prayer Room Location

Prayer rooms are available to students and visitors throughout the University.

Harassment Policy

It is University policy that all registered students have the right to pursue their studies and related activities free from personal harassment from other students, faculty or staff on the campus. As part of a proactive approach to this issue, Student Affairs delivers an ongoing campus-wide Respect Campaign focusing on the importance of respect for self and others. More on this policy can be found in the UDST Student Handbook.

Student Conduct Policy

UDST recognizes that students are responsible for their behavior and overall conduct while on campus. If a student does not follow UDST policies, procedures and regulations the University may take action. Violations are dealt with through formal disciplinary procedures. Copies of the Student Conduct Policy and the Student Rights and Responsibilities can be found in the UDST Student Handbook.

Appeal Process

All students of the University can appeal a decision or ruling that affects them. Issues may relate to academics, attendance, discipline and students' rights and responsibilities. The University believes that student concerns should be addressed in a timely manner. Students wishing to appeal can request an Appeal Application Form from the Admissions and Registration Directorate.

Student Parking

There are several parking lots adjacent to UDST buildings. Some lots are shared by faculty and students while others are designated specifically for students. Failure to park in designated areas, or parking in special spaces (such as handicapped parking spaces), may result in disciplinary action or other penalties as described in the Student Conduct Policy.

Student Affairs

Student Central Services

Welcome to Student Central Services, the hub of student success support and resources for students at UDST. We understand that navigating through the various aspects of university life can be both exciting and challenging, which is why our dedicated team is here to assist you every step of the way.

At Student Central Services, we provide a comprehensive range of services to cater to the unique needs of our student community, including academic advising, academic learning services, and career services. Whether you are a new student just beginning your academic journey or a seasoned student seeking assistance, our knowledgeable staff is committed to providing you with the highest level of support and guidance.

Student Central Services serves as a "one-stop-shop" for students, enabling them to access multiple services and resources in one location. The ultimate goal of the Student Central Services department is to be a student-centric department that provides exceptional comprehensive services and support to enhance the full student experience within an applied, technical, and vocational education.

By utilizing Student Central Services, students will succeed by receiving quality comprehensive student services, including:

- Academic learning support such as peer tutoring, academic coaching, and help centers; and
- Academic advising support; and
- Career development such as work placement assistance, student employment and career-related services to support your transition to the workplace; and
- Academic success planning; and
- A first-year student experience program.

All as a one-stop shop. "You've got questions, we've got answers", is our motto. Student Central Services aims to foster well-rounded students that are academically successful, employable, and global citizens.

We take pride in our commitment to student success, and our goal is to empower you to achieve your academic, personal, and professional goals. No matter the challenge you may be facing, our dedicated team at Student Central Services is here to provide you with the guidance, support, and resources you need to thrive during your time at our university.

Visit us at our convenient location in Building 13 on campus, reach out to us at stucentservices@udst.edu.qa or visit Student Central Services D2L for more service details and resources.

Student Central Services is your reliable partner on your journey towards success.

Academic Advising

UDST's Academic Advising services are dedicated to supporting students as they navigate the university experience. Academic Advisors act as the student advocate and guide on campus. UDST academic advisors are committed to supporting students in achieving their personal and academic goals.

Academic Advising Team Members

- Faculty Academic Advisors
- Professional Academic Advisors (Student Central Services)
- Heads of Departments
- Assistant Deans for Student Affairs

Advising services begin as soon as a student is admitted. Once students are admitted, they can work with Student Central Services dedicated professional academic advisors until they are assigned dedicated faculty advisor(s) who will work with them throughout their academic journey.

Advisors provide a range of services to help students succeed!

Academic Advising Services

- Course selection and registration
- Academic Success Planning
- Academic Standing and Progression
- Explaining UDST Policies, Procedures, and Practices
- Assisting with Troubleshooting IT Issues related to PeopleSoft and/or D2L
- Connecting Students to Resources
- And, more!

In addition to advising students, the Academic Advising Unit works closely with, and connects students to, other UDST student success resources such as Academic Learning Services, Counseling, Accessibility Services, and Career Services.

The Academic Advising Unit takes a holistic approach to advising, considering not just students' academic goals, but also their personal and professional aspirations. They recognize that each student is unique, with their own strengths, challenges, and goals. Therefore, they provide personalized guidance tailored to each student's individual needs.

Student Affairs

The goal of the Academic Advising Unit is to help students succeed academically and achieve their full potential. They are committed to supporting students throughout their academic journey, from orientation to graduation and beyond. With their expert guidance and support, students can achieve their goals and succeed in their chosen fields.

For more information, please email:
advising@udst.edu.qa

Academic Learning Services

Academic Learning Services (ALS) offers students a wide array of services to students with the aim to enhance students' learning experience. ALS offers services including but not limited to academic coaching, peer tutoring, academic help centers, learning workshops, and supplemental instruction. Students can email us at learningservices@udst.edu.qa for additional queries.

Academic Coaching

Academic Coaching is a personalized one-on-one service offered to UDST students based on request. Working with an Academic Coach can help students learn effectively, stay focused, manage study time, and much more. Students interested in scheduling an Academic Coaching appointment can email us at learningservices@udst.edu.qa

Peer Tutoring

Free of cost course-specific support offered by competent and trained peers. With continuous guidance offered by the Academic Learning Services, the Peer Tutoring Program serves as a perfect opportunity to improve students' academic performance. On the other hand, Peer Tutors gain experience and compensated for the services offered. Students interested in joining the Peer Tutoring Program as a Peer Tutor or Tutee (Learner) can email us at peertutoring@udst.edu.qa

Academic Help Centers

Academic Help Centers offer a welcoming environment to access resources, seek support with assignments, and seek a quick response to their subject related questions. Unlike the Peer Tutoring Program, Academic Help Centers operate on a mostly drop-in basis. For more information, students can email us at academichelpcenters@udst.edu.qa

Below is a list of available Academic Help Centers:

- Accounting Help Center
- Advanced Writing Center (AWC)
- Business Help Center
- Computing and IT Help Center
- Engineering and Technology Help Center
- English Success Zone
- Health Sciences Help Center
- Math and Science Help Center

Learning Workshops

The Academic Learning Services team hosts workshops throughout the semester based on various topics. Workshops hosted include study skills, academic integrity, learning styles, and much more. To learn more about the upcoming workshops, students can email us at learningservices@udst.edu.qa

Career Services

Career Services is an innovative UDST service that assists with student career development and workplace transition in support of workforce planning for the State of Qatar. To achieve this mission, the following services are provided:

- Career coaching services (may be accompanied with a career assessment);
- Support of Career readiness tools such as a CV and Career-readiness workshops;
- Simulated job interviews and personal branding;
- Hosting of an annual Career Fair;
- Student employment services (i.e. on-campus part-time employment);
- Work Placement program-based services;
- Liaise between UDST's talent and prospective employers to facilitate job placement;
- Assistance with job search techniques and employability skills;

Guide and support students to understand the workforce development needs of business industry, both regionally and internationally. For more information on Career Services, please email careerservices@udst.edu.qa

Student Counselling and Accessibility Services

Attending University can be overwhelming as students strive to reach their personal, social and academic goals. Students may experience difficulties adjusting to university environment, lack of motivation, poor self-confidence, issues at home, loneliness, conflicts in relationships etc. Student Counselling and Accessibility Services (SCAS) provides free, confidential, therapeutic, support to all registered UDST students. These services help students overcome the challenges that they may be facing in order to experience a more enriched University life.

Student Counselling Services:

Services provided include:

Mental Health (Psychological) Counselling

Counselling is a type of talking therapy that encourages individuals to address particular challenges that are being experienced. The process of counselling helps students to gain a better understanding of their thoughts, feelings and behaviors with the aim to empower them to resolve their concern.

A team of highly trained, qualified Student Counselling Specialists are available to support students with any challenges (such as family/friendship dynamics, managing emotions, improving confidence) that impacts their day-to-day experience.

Counselling is confidential and any information discussed will not be shared with instructors or family members without consent, and will not be part of student records.

To schedule an appointment with a counsellor please go here: Book an Appointment

Mental Health Awareness Events

Student Counselling Specialists are specialized in understanding how mental health impacts general wellbeing and they are dedicated in educating the campus community by delivering awareness campaigns and events that all students can be a part of.

Personal Development Workshops

Student Counselling Specialists provide various workshops that help with developing life skills and personal development. These workshops support students to develop skills that will benefit them as they transition into adult life. Workshops include, but not limited to: conflict resolution, managing anxiety, understanding group dynamics.

Advocacy

Student Counselling Specialists are available to assist students in practical matters whereby they may need guidance or support.

Accessibility Services:

Services provided include:

Accessibility Support (AESN)

Students with diverse needs make up a vital part of the UDST community. Accessibility Services is committed to providing an equitable, accessible and supportive environment for all students.

Accessibility Services works collaboratively with students, staff and Faculty to provide services for students with various physical, learning, sensory and psychological needs to enhance their learning experience and reduce barriers to their success. These services include but are not limited to:

- Completing intake sessions with students who identify as requiring accommodations
- Communicating reasonable accommodations to ensure equal access to all programs and activities that UDST offers
- Advocating on behalf of, and with, students to ensure the provision of reasonable accommodations and support
- Connecting students to internal and external resources to enhance learning and success

Students who require accommodations or who would like further information regarding Accessibility Services at UDST can book an appointment here: Book an Appointment

For additional information, please visit the Student Counselling and Accessibility Services Department course on D2L

Library

Library

The Library, located in Building 14, is managed by highly educated and knowledgeable librarians, along with well trained and qualified professional support staff. The library plays a crucial role in student success by providing exceptional research and supplementary resources for all programs taught at the University. The collection includes a comprehensive selection of online and print books, international and local newspapers, magazines, academic journals, and specialized online databases and research support tools. Digital media equipment is also available through the Library. Staff, faculty, and students can book appointments with librarians for assistance with research and navigating the library's extensive resources. An online chat service is also available to speak directly with our knowledgeable staff for immediate help.

The following people in these departments can assist you:

Acting Director Library Services	4495-2564
Library Information Desk	4495-2051
Learning Commons Information Desk	4495-2049

Questions can also be emailed to reference@udst.edu.qa

Learning Commons

The Learning Commons, located in Building 3, supports student learning objectives and achievements across the curriculum in an integrated, collaborative environment. The Learning Commons provides open and closed group study spaces, student computers, and a small reading library collection. Walk-In and by appointment Library Reference and Instruction services are also available at the Learning Commons.

Admissions & Registration Directorate

The Admissions and Registration Directorate administers the University's policies and procedures covering admission, academic regulations, academic status of students, and awards and scholarships. This section of the Academic Catalog provides important information about these functions.

Please check the website for any changes or updates to this Academic Catalog for 2024-2025.

The Admissions and Registration Directorate is open in Building 1 from Sunday through Thursday from 7:30am - 3:00pm.

For General Enquiries 4495-2225

Application Deadlines

The following deadlines will be in effect for the 2024-2025 academic year:

	WINTER 2025 (January – April)	SPRING 2025 (April – May)	FALL 2025 (September – December)
Online Application	Start: September 22, 2024 End: November 14, 2024	Start: January 19, 2025 End: March 13, 2025	Start: January 19, 2025 End: July 3, 2025
Testing	Start: September 29, 2024 End: November 21, 2024	Start: January 26, 2025 End: March 20, 2025	Start: January 26, 2025 End: July 10, 2025
Last Date to Submit Missing Documents	December 29, 2024	April 30, 2025	August 24, 2025

Admissions

Undergraduate Admission

1. Applicants seeking Undergraduate admission must satisfy the University's minimum Placement Test requirements.

2. In lieu of the Placement Test, the University may accept valid test scores from other internationally recognized English and Mathematics proficiency tests:
   a. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
   b. A valid (within two years) TOEFL score of 480; OR
   c. A valid (within two years) iBT score of 49 (no score below 12 for each band); OR
   d. A valid (within three years) SAT score of 480 for math and/or English; OR
   e. A valid (within two years) ACT score of 20 for math.

3. The Placement Test is not required for admission of UDST graduates within two years of their graduation.

4. Applicants, who are transferring from or have graduated from a higher education institution where English is the medium of instruction, can request to have the Placement Test waived. Waivers are granted at the sole discretion of the University. The deadline for a student to request a waiver is the first day of classes for the semester of admission.

5. The University accepts an applicant's highest, non-expired Placement Test scores taken within two years of the application date.

6. Eligible applicants who meet the required English and Mathematics placement scores are considered for direct entry into their Program.

7. Eligible applicants who do not meet the required English and Mathematics placement scores will be considered for entry into the Foundation Program.

8. The minimum required Placement Test scores may vary by Program. Applicants are advised to carefully review the Placement Test requirements on the University website.

Undergraduate Admission Categories

The University evaluates the following Undergraduate applicants:

1. High School Graduates
2. Transfer Students
3. UDST Graduates
4. Visiting Students

1.High School Graduates

Admission Requirements:

1. A minimum average of 60% in the final year (Grade 12 or equivalent) of high school; and

2. Satisfies all minimum subject-specific requirements for entry into the Program.

Placement Test Requirements:

Placement Testing is required for all high school graduates seeking Undergraduate admission. Eligible applicants who do not satisfy the required Placement Test scores or waiver provision will be considered for admission to the Foundation Program.

Admissions

Application Requirements:

1. High School Transcript
    a. All Undergraduate applicants, who attended a high school in the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education.
    b. Undergraduate applicants, who attended a high school outside of the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country.

2. Letter of equivalency from the Ministry of Education and Higher Education in Qatar is required for:
    a. All Undergraduate applicants, who attended a private high school in the State of Qatar.
    b. Undergraduate applicants, who attended a high school outside of the State of Qatar.

3. Valid Passport/Travel Document; and

4. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

5. National Service Certificate/Letter for all male Qatari applicants; and

6. Documentation to support the Admission Priority Category; and

7. Official Placement Test result or acceptable waiver; and

8. Submission of the online admission application and confirmation of payment of the application fee.

2. Transfer Students

Applicants who have attended another higher education institution will be considered a transfer applicant.

Admission Requirements:

1. Graduated high school; and
2. Completed 2 Semesters with a minimum cumulative GPA of 2.00 from a higher education institution recognized by an international accrediting association or by the Ministry of Education and Higher Education or equivalent authority in that country.

Placement Test Requirements:

Placement Testing is required for all students seeking Transfer admission. Applicants who do not satisfy the required Placement Test scores or waiver provision will be considered for admission to the Foundation Program.

Application Requirements:

1. High School Transcript
    a. All Undergraduate applicants, who attended a high school in the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education.
    b. Undergraduate applicants, who attended a high school outside of the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country.

2. Letter of equivalency from the Ministry of Education and Higher Education in Qatar is required for:
    a. All Undergraduate applicants, who attended a private high school in the State of Qatar.
    b. Undergraduate applicants, who attended a high school outside of the State of Qatar.

3. Official transcript from a higher education institution recognized by an international accrediting association or attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country; and

4. Valid Passport/Travel Document; and

5. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

6. National Service Certificate/Letter for all male Qatari applicants; and

7. Documentation to support the Admission Priority Category; and

8. Official Placement Test result or acceptable waiver; and

9. Submission of the online admission application and confirmation of payment of the application fee.

3. UDST Graduates

Applicants who have previously earned a credential from UDST will be considered a University graduate applicant and can apply for Admission to another Program at the University.

Admission Requirements:

1. Previously earned a UDST credential.

Placement Test Requirements:

1. The Placement Test is not required for admission of UDST graduates within 2 years of their UDST graduation.

2. Only the English Placement Test or waiver is required for applicants seeking admission beyond 2 years of their UDST graduation. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Application Requirements:

1. Submission of the online admissions application and confirmation of payment of the application fee.

4. Visiting Students

Applicants who are attending other higher education institutions and wish to take courses at the University will be considered a visiting applicant.

Admission Requirements:

1. Enrolled at another higher education institution recognized by an international accrediting association or by the Ministry of Education and Higher Education or equivalent authority in that country.

Admissions

Placement Test Requirements:

Placement Testing is required for all Undergraduate visiting applicants. Visiting applicants who do not satisfy the required Placement Test scores or waiver provision are not eligible for entry into the Foundation Program.

Application Requirements:

1. All Undergraduate visiting applicants must submit a letter of enrollment from their home institution verifying their enrollment details and that they are in good standing.

2. Official transcript from a higher education institution recognized by an international accrediting association or attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country, and

3. Valid Passport/Travel Document; and

4. Valid Qatar National Identification card; and

5. Official Placement Test result or acceptable waiver; and

6. Submission of the online admissions application and confirmation of payment of the application fee.

Supplementary Information

High School Graduation Requirement

All Undergraduate applicants are required to complete the final year of high school (12th grade or equivalent) as specified by the Ministry of Education and Higher Education in Qatar.

Ministry validation of secondary grades is required for applicants seeking admission under the High School Graduates category.

Early Conditional Admission

The University admits high achieving Undergraduate applicants on the strength of their 11th grade and first semester of 12th grade results. Students receiving Early Conditional Admission are expected to satisfy the University's admission requirements in order to satisfy the condition of their admission.

Admission Requirements:

1. Applicants who are enrolled in their final year (12th grade or equivalent) of high school; and

2. Earned a minimum of 70% in both their 11th grade and first semester of 12th grade results. Applicants in the International Baccalaureate (IB) or British System should submit predicted grades.

Placement Test Requirements:

Placement Testing is required for all students seeking Early Conditional Admission. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Applicants who do not satisfy the requirements for Early Conditional Admission will be evaluated for regular admission or Provisional Admission.

Provisional Admission

Based on available capacity, the University offers Provisional Admission to a limited number of Undergraduate applicants providing a structured academic pathway, essential skills, and learning support for applicants who have graduated high school but who do not meet the University's initial admission requirements.

Admission Requirements:

1. Graduated High School.

Placement Test Requirements:

Placement Testing is required for all students seeking Provisional Admission. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Upon successful completion of their Provisional Admission requirements, students will be adjusted to regular student status.

The maximum duration of enrollment in Provisional Admission status is 2 academic years from the semester of admission. Students who exceed this maximum duration without completing the Provisional Admission requirements will have their admission revoked. Students who have had their Provisional Admission revoked are not eligible to re-apply for Provisional Admission.

Graduate (Master) Admission:

The University evaluates the following Graduate applicants.

1. Bachelor's Degree Graduates
2. Transfer Students
3. Visiting Students

1 . Bachelor's Degree Graduates

Graduate applicants who have earned a Bachelor's degree or equivalent will be considered for admission to a Graduate Program:

Admission Requirements:

1. Earned a UDST Bachelor's degree in a related field of study; OR
   Earned a Bachelor's degree with a minimum cumulative GPA of 3.00 from a recognized higher education institution; and
2. Satisfied Program-specific admission requirements; and
3. Satisfied the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
   a. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
   b. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.

Admissions

2. Valid Passport/Travel Document; and

3. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

4. National Service Certificate/Letter for all male Qatari Applicants; and

5. Documentation to support the Admission Priority Category; and

6. Official Placement Test result or acceptable waiver; and

7. Submission of the online admission application and confirmation of payment of the application fee.

2. Transfer Students

Applicants transferring from a Graduate Program at another higher education institution must satisfy the following minimum requirements to be considered for admission as a Transfer student:

Admission Requirements:

1. Earned a Bachelor's degree in a related field of study with a minimum cumulative GPA of 3.00 from a recognized higher education institution; and

2. Are in Clear Standing or equivalent at their home institution; and

3. Fulfill Program-specific admission requirements; and

4. Satisfy the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate transfer applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
    a. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
    b. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.

2. Valid Passport/Travel Document; and

3. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

4. National Service Certificate/Letter for all male Qatari Applicants; and

5. Documentation to support the Admission Priority Category; and

6. Official Placement Test result or acceptable waiver; and

7. Submission of the online admission application and confirmation of payment of the application fee.

3. Visiting Students

Applicants visiting from a Graduate Program at another higher education institution must satisfy the following minimum requirements to be considered for admission as a Visiting student:

Admission Requirements:

1. Are in Clear Standing or equivalent at their home institution; and

2. Fulfill Program-specific admission requirements; and

3. Satisfy the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate visiting applicants must submit a letter of enrollment from their home institution verifying their enrollment details and that they are in good standing.

2. All Graduate visiting applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
    a. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
    b. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.

3. Valid Passport/Travel Document; and

4. Valid Qatar National Identification card; and

5. Documentation to support the Admission Priority Category; and

6. Official Placement Test result or acceptable waiver; and

7. Submission of the online admission application and confirmation of payment of the application fee.

Admissions

English Language Requirements:

1. Applicants seeking Graduate admission must satisfy the University's minimum English Placement Test score requirement.

2. In lieu of the Placement Test, the University may accept valid test scores from other internationally recognized English language proficiency tests:
   a. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
   b. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR
   c. A valid (within two years) iBT score of 72.

3. The Placement Test is not required for admission of UDST graduates within two years of their UDST graduation.

4. Applicants, who are transferring from or have graduated from a higher education institution where English is the medium of instruction, can request to have the Placement Test waived. Waivers are granted at the sole discretion of the University. The deadline for a student to request a waiver is the first day of classes for the semester of admission.

5. The University accepts an applicant's highest, non-expired Placement Test scores taken within two years of the application date.

6. The minimum required Placement Test scores may vary by Program. Applicants are advised to carefully review the Placement Test requirements on the University website.

7. Applicants who do not meet the required Placement Test scores are ineligible for placement into the Foundation Program.

Additional Requirements:

Certain graduate programs require specific undergraduate backgrounds for admission consideration. A comprehensive list of accepted undergraduate fields is available on the Admissions website.

Certain graduate programs have additional requirements including but not limited to letters of recommendation, Curriculum Vitae, employment certificate, current licensure, personal interview, etc. A comprehensive list of additional programmatic requirements is available on the Admissions website.

Admissions

Additional Information for Undergraduate and Graduate Admission.

Competitive Entry

Admission to all University Programs is competitive and attaining the minimum admission requirements does not guarantee admission to the University. In addition to available Program capacity, applications are evaluated on the following criteria:

1. Diploma Programs

Qualified applicants are assessed on their overall final year (12th grade or equivalent) High School percentage / prior UDST GPA / prior higher education institution GPA, placement tests rankings, and their Admissions Priority Category.

2. Bachelor's Degree Programs

Qualified applicants are assessed on their overall final year (12th grade or equivalent) High School percentage / prior UDST GPA / prior higher education institution GPA, placement tests rankings, and their Admissions Priority Category.

3. Graduate Degree Programs

Qualified applicants are assessed on their overall Bachelor's degree GPA and the Admission Priority Category.

Waitlisted Applicants

1. Eligible applicants are placed on a ranked waitlist and will be offered admission as space becomes available in the Program. Candidates are admitted until Program capacity is reached or the waitlist has been exhausted.

2. Applicants who have been placed on a waitlist can request to transfer to a Program that has available capacity.

3. Applicants on a waitlist can re-test to improve their English and Mathematics Placement Test results.

4. Applicants who have not received an offer of admission by the end of the admissions cycle are encouraged to carry forward their application to a subsequent semester. Applicants who choose to do so will be assessed on a newly ranked waitlist. Applicants must contact the Admissions and Registration Directorate to request to carry their application forward

Admission Priority

The University will select the most qualified applicants, subject to the following Admission Priority:

Priority A: Qatari Applicants/Holders of Qatari Travel Documents;

Priority B: Qatar Travel Documents;

Priority C: Applicants born to Qatari mothers living in Qatar/ non-Qatari female spouses of Qatari nationals;

Priority D: Children of Diplomats;

Priority E: Children of University Employees;

Priority F: Applicants born in Qatar;

Priority G: Residents in Qatar;

Priority H: Applicants residing outside the State of Qatar.

Conditional Admission

In extenuating circumstances, an applicant may be granted Conditional Admission while their documentation is being attested or being reviewed for equivalency. In all cases, applicants receiving Conditional Admission must meet the University's admission requirements in order to satisfy the condition of their admission. In addition, applicants receiving Conditional Admission must clear all conditions before the first day of classes for the semester of admission or their admission will be revoked.

Applicants who do not satisfy the requirements for Conditional Admission will be evaluated for Provisional Admission.

Admission No Show

New or re-admitted students who are not registered in classes by the end of the Add/Drop Period are considered to have cancelled their admission and their admission will be revoked. No Show students must re-apply to be considered for future admission to the University.

Re-Admission

Students who have not been enrolled for one academic year or more must request re-admission through the Admissions and Registration Directorate. Re-admission applicants may apply to their prior academic program or to any other academic program for which they are eligible.

Students who have been Academically Dismissed are not eligible for Re-admission to the same Program. Academically Dismissed Students may apply for Admission to another Program for the subsequent Semester.

Discontinued and Academically Dismissed Students who have not been enrolled for at least two years are required to re-take the English Placement Test.

Restrictions

The University reserves the right to revoke offers of admission due to any action that violates the approved Admissions Policy, the Student Conduct Policy, or applicable Qatari laws.

Application Process

1. Applications will be processed provided:
    a. The application is correctly completed with all documentation, and
    b. All educational and other requirements are met, and
    c. All required fees are paid.
2. Applicants will be notified immediately upon receipt of their application.

3. Applicants may be required to meet additional program specific entry requirements.

Admissions

Students Requiring Accessibility Services

Applicants requiring additional educational supports will be individually interviewed (in-take interview) by the Student Success and Counseling Department to collect pertinent information relevant to admissibility for the College the student has expressed an interest in.

The in-take interview will include:

1. Reviewing the Applicant's supporting medical documentation;
2. Reviewing the recommendation of the sponsoring or supporting group (if applicable);
3. Summarizing the Applicant's strengths and abilities;
4. Determining the need for reasonable accommodations and/or support staff required to facilitate the integration of the Applicant;
5. Identifying necessary resources/equipment required to facilitate the training;
6. Meeting with the appropriate Dean of the College to provide a summary of the findings;
7. Final decision for admittance to a program will be made by the appropriate Dean.

The University requires that Applicants disclose their disability at the point of Admission application.

There is no guarantee that admission will be offered to students requiring additional educational supports.

General Studies

Eligible Applicant who have not made a final decision about admission to a particular program, can be admitted into General Studies, subject to available capacity. Students admitted into General Studies are eligible to apply for a transfer to a program of study conditional to meeting the program admission criteria.

Entry for Part-Time Students

Students who apply for part-time status in any program must meet all the requirements outlined for full-time status and will be considered only if a vacancy exists after full-time students have been accommodated.

Definition of Academic Terms

Academic Advising
Interactions between a student and an Academic Advisor that involve discussing the student's academic plan, making appropriate course selections, academic progression, and learning outcomes.

Academic Advisor
A representative of the University who helps and advises students on their academic plan, appropriate course selections, academic progression, and learning outcomes.

Academic Calendar
A representation of the periods associated with the University's operations, containing the teaching periods, exam and holiday dates, and key deadlines, which is approved by the University's Board of Trustees.

Academic Dismissal
A decision of the University to revoke the enrollment status of a student from a Program based on their academic standing.

Academic Members
Faculty Members and Instructional Members.

Academic Probation
An Academic Standing assigned to Graduate Students who achieve a Cumulative GPA less than 3.00 for the first time.

Academic Probation 1
An Academic Standing assigned to Foundation and Undergraduate Students who achieve a Cumulative GPA less than 2.00 for the first time or who fail an Academic Preparatory Course for the first time.

Academic Probation 2
An Academic Standing assigned to Undergraduate Students on Academic Probation 1 who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration or to Foundation Students who fail an Academic Preparatory Course on the second attempt.

Academic Warning
A non-punitive alert issued to Undergraduate Students who achieve a failing Final Grade two times for the same Course.

Academic Year
The 12-month period defined in the University's Academic Calendar, as approved by the Board of Trustees.

Add/Drop Deadline
The last day of the Add/Drop Period for students to add or drop courses as per the Academic Calendar.

Add/Drop Period
A period of time at the beginning of each semester when students can adjust schedules by adding and/or dropping courses or changing course sections, defined in the approved Academic Calendar.

Admission
The process in which applicants are evaluated for entry into a University Program.

Admission Priority Category
The order in which qualified applicants are admitted to seats available within programs.

Admission Requirements
The requirements for eligibility into a University program.

Applicant
An individual who has submitted and completed an application to be admitted into a program.

Audited Course
A non-factorable course in which a student is enrolled that cannot be graded for credit.

Clear Standing
The Academic Standing of a student who has achieved the minimum Cumulative GPA required by the program:

- Foundation Program Students are in Clear Standing when they have achieved passing Final Grades in all Academic Preparatory Courses.
- Undergraduate Students are in Clear Standing when they have attained a Cumulative GPA of at least 2.00.
- Graduate Students are in Clear Standing when they have attained a Cumulative GPA of at least 3.00.

Clinical Practice
Training conducted in the learning environment at the University but may include online and out-of-class assignments. It offers an experience-based instruction for the purpose of developing skills related to the discipline focused on "real world" activities that may be offered in a simulated "real world" environment generally in healthcare or service occupation programs. Clinical practice instruction is conducted under the supervision of an academic member.

Clinical Work
A Course providing a career-related work experience of limited duration, specifically in the health sciences field.

Competitive Entry (with regard to Admission)
Admission where the number of qualified applicants regularly exceeds the number of seats available.

Conditional Admission
Instances when Admission is offered before one or more of the Admission Requirements are met and is conditional on the outstanding requirements being met by a specified time.

Co-requisite
A course that a student must enroll in at the same time as another course or requirement.

Course
A set of learning sessions in a particular subject, with a defined scope and duration, and specific learning outcomes.

Definition of Academic Terms

Course Learning Outcome
The specifications of what the student should learn as the result of the specified and supported study in a given course.

Course Repetition
Re-enrollment in a course previously completed to improve the Final Grade or strengthen knowledge of a particular topic.

Course Requirement
Assessments and/or deliverables that a student is required to complete, such as assignments, papers, reports and other coursework.

Credit
A unit of measurement assigned to a course based on the total amount of learning time that counts toward a Program or credential completion, at a particular level of the Qatar National Qualification Framework.

Cumulative GPA
The overall cumulative grade point average across multiple semesters in a student's program.

Deferred Examination
An examination that is taken at a time other than the scheduled time or date.

Discontinued Student
A student who was enrolled in a program and has either not registered for a subsequent semester, registered in a current semester but not attended any classes, has withdrawn voluntarily or involuntarily, or has been suspended.

Dismissal
A decision of the University to revoke the enrollment status of a student.

Early Conditional Admission
A Conditional Admission category, providing a conditional confirmation of a seat to priority Applicants enrolled in their final year of high school.

Eligible Applicant
An applicant who satisfies the minimum requirements for Admission.

Exemption from Course
A grade type indicating that a student has satisfied a course requirement through course transfer or Challenge Examination.

Faculty Members
Members of the teaching and/or research staff, whether on part- or full-time, holding the following ranks: Professor, Associate Professor, Assistant Professor, Senior Lecturer/Senior Technical Instructor, or Lecturer/Technical Instructor

Final Examination
An assessment for measuring the achievement of specific course learning outcomes, which is administered at the end of a course.

Final Grade
The grade assigned for the entire Course, when all Final Grade Components of the Course are completed.

Final Grade Components
The elements which, when computed, total the Final Grade for the course.

Foundation Program
A series of University courses designed to prepare students for their program.

General Studies
An academic plan where a student is eligible to enroll in credit courses without being admitted into a credit program.

Grading Scheme
The grading scale adopted by the University.

High School Graduate
An applicant that has passed high school earning a high school degree or equivalent.

Incomplete Grade
A non-factorable placeholder grade assigned when the mandatory components of the course are not completed.

In Progress
A non-factorable placeholder grade assigned for a course that extends beyond the regular semester.

Instructional Members
Members of the teaching staff, whether on part- or full- time, holding the following titles: Assistant Lecturer/or Workshop/ Lab/Clinical Instructor, Assistant Technical Instructor, Trades Technical Instructor, or Teaching Assistant.

Learning Session
Classes, labs, placements or work term prescribed by a course.

Non-factorable Grade
A grade that is excluded from the cumulative GPA calculation.

Passing Grade in Course
Denotes the minimum final grade required in order to succeed in a course, or a final grade of P for courses designated as Pass / Fail.

Placement Test
An assessment to determine the student's level of competency in English and/or Mathematics.

Prerequisite
A course that a student must pass before enrolling in a more advanced course.

Program
A prescribed set of courses leading to a qualification, including a Certificate, Diploma (2 years), Advanced Diploma (3 years), Bachelor, Master, or Doctorate, according to the Qatar National Qualifications Framework.

Provisional Admission
A conditional admission category for students who do not meet the University' initial admission requirements.

Definition of Academic Terms

Re-admission
The process in which an applicant is admitted (or denied) into a University Program, when an applicant has previously been admitted as a student but has been dismissed or has become a discontinued student.

Registration Period
A period of time prior to the beginning of each semester when students can enroll in courses.

Re-Read
A formal re-marking of the student's final examination which may result in a change of final grade.

Section
A course offering distinguished from other identical course offerings by date, time, location, instructor, etc.

Semester
A division of an Academic Year where a student is enrolled in a course(s) followed by an examination period.

Student
A person who is presently enrolled at the University in a credit course or who is designated by the University as a student.

Transcript
An official document of the University summarizing the entire academic records of a student including essential information pertaining to the student's courses, grades, academic standing and credential attainment.

Transfer Student
A student who moves from one higher education institution to another.

Visiting Student
A student permitted to take courses at the University for transfer of credit to another higher education institution.

Withdraw
An action where the student withdraws from a course during the Withdrawal Period resulting in a withdraw grade.

Withdraw Grade
The final grade of W assigned and entered on the transcript to indicate the student's official withdrawal from a course within the Withdrawal Period.

Withdrawal Period
The timeframe determined by the University and extending from the end of the Add/Drop Period until the middle of the semester.

Work Term
The opportunity to develop students' job skills by providing them with a structured employment situation that is directly related to, and coordinated with, their Program.

Academic Regulations

Modes of Instruction

The following types of instruction are used at UDST:

1. Lecture (LEC)
2. Laboratory (LAB)
3. Clinical/Practicum
4. Work Term
5. Independent Studies
6. Blended Learning (including Online)
7. Tutorials
8. Workshop
9. Capstone Course
10. Internship
11. Seminar

Semester Structure

The University operates under a semester structure where two semesters are offered between September and April. These are referred to as our Fall and Winter semesters. There are also two condensed seven-week semesters in Spring and Summer that are available for some programs.

Semesters

Fall/Winter

A 15-week period that includes class/learning time as well as administrative and evaluation time.

Fall Semester begins in August/September.

Winter Semester begins in January.

Spring/Summer

A 7-week period that include class/learning time as well as administrative and evaluation time.

Spring Semester begins in April/May.

Summer Semester begins in July.

Student ID Numbers

Individual student ID numbers will be assigned to students admitted to all University programs, whether full-time or part-time. The individual student number will be used in all correspondence and/or transactions with the University (e.g. registration, exams, requests for transcripts). Student numbers must appear on all documents to be added to the students' files and for registration, exams, requests for transcripts, etc.

Work Term/Clinical

Work term is an opportunity for students to apply knowledge and skills obtained in the classroom by working at a company to gain hands-on experience. All work term companies and placements must be approved by the University. Work Term is an academic and mandatory course that is part of a student's program in many UDST programs. The Work Term course is assessed and students receive a grade when they have completed the course. Students must attend a mandatory Work Term orientation where they are given additional information about the Work Term course.

Work Term Eligibility

To be eligible to register for your Work Term course, you must meet the minimum eligibility requirements for the program in which you are enrolled.

Some programs require a minimum cumulative GPA of 2.00 in order for students to be eligible for a Work Term. Students are encouraged to consult with their Academic Advisor for Work Term enrollment requirements.

Access to Information

The University has had a practice of not releasing student information to any person without the consent of the student. The University will not release personal information, including information about attendance, marks or program to anyone (including spouse, parents or children) without written consent. Please submit the required Consent to Release Information form to the Admissions and Registration Directorate. Telephone permission will not be accepted. Students may be asked for identification before the University will release information to them.

The University does have a duty to release student records to those with a Sponsor (including information on grades, academic warnings and dismissals, attendance etc.) in accordance with the Sponsor–Student Agreement.

Student Records

Faculty and administrative officers with a demonstrated need to know will be permitted to examine the academic records of student (excluding health and personal counselling records) and will only have access to the minimum amount of information necessary in order to carry out their duties. Designated faculty and administrative officers are those individuals who have been determined to have legitimate educational interest and if the information requested is necessary for that officer to perform a task that is related to their assigned job functions or related to their performance of a contract with the University. All faculty and staff must respect the confidentiality of the information. Access to these records by other individuals requires the student's express written consent.

Credentials

The University awards the following parchments upon the successful completion of the student's program of study:

1. Certificate
2. Diploma
3. Advanced Diploma
4. Bachelor's Degree
5. Post-Diploma Bachelor's Degree
6. Postgraduate Diploma
7. Master's Degree
8. Certificate of Participation or Achievement

Student Program Completion Time Frame

Students who exceed the enrollment duration of their respective program by 150%, counted from the first semester of registration in the program will be academically dismissed. The maximum enrollment duration excludes semesters without registration and includes semesters in which a Final Grade, including a W grade, is assigned.

Academic Integrity

Academic Misconduct

A student has the responsibility to pursue their education and work to the best of their ability in all academic pursuits. Academic dishonesty, including, but not limited to cheating, plagiarism and collusion is strictly prohibited. Students are reminded that for guidance and information on proper scholarly behavior, they should seek advice from Academic Advisors, Academic Members, or their Counsellors.

Academic Dishonesty

Academic dishonesty falls under the Student Conduct Policy with the penalties listed under the Student Conduct Procedure.

There are many forms of academic dishonesty. Cheating, plagiarism, collusion, taking credit for work that is not his/her own, and helping another student take credit for work that is not his/her own are all forms of academic dishonesty.

Cheating

Cheating involves actual, or attempted, deception and/or dishonest action in relation to any academic work of the University, whether committed on or off campus, or online. Examples of attempted deception and cheating are mentioned in the Student Conduct Policy.

Collusion

Collusion is the active cooperation between two or more students to jointly produce material where there is a requirement that that material be produced independently. Examples of collusion are mentioned in the Student Conduct Policy.

Plagiarism

Plagiarism is the unacknowledged inclusion of material derived from the published or unpublished work of another person (such as from the internet or from another person) whether intentional or unintentional. Examples of plagiarism are mentioned in the Student Conduct Policy.

Other examples of Academic Misconduct include:

- Actions pertaining to Course Materials, such as removing, defacing, or deliberately keeping from other students library materials; contaminating laboratory samples or altering indicators during a practical exam; selling, distributing, website posting or publishing course lecture notes, handouts, readers, recordings, or other information provided by an Academic Member or using them for any commercial purpose
- Theft or damage to Intellectual Property
- Alteration of University Documents

Disciplinary Actions

The University will seek to promote and facilitate good Student conduct through education, support and positive encouragement. However, where these approaches or other informal actions are not sufficient, formal disciplinary action will be instituted, in accordance with the Student Conduct Procedure.

Cases of academic misconduct will be dealt with according to the Student Conduct Policy and the Student Conduct Procedure of the University. Based on the seriousness of the case, the case may be referred to the Student Misconduct Committee.

Right of Appeal

A student found to be in violation of the Student Conduct Policy and having received a suspension or expulsion may initiate an appeal to the Student Appeals Committee in accordance with the Student Appeals Policy and Student Appeals Procedure.

Registration

Students will register online on the date and at the time publicized by the University. Students can register for courses, change their schedule, and drop courses anytime during the Registration Period and until the end of the Add/Drop Period. Students may not attend courses for which they have not registered.

Students are not officially registered in any course until they have satisfied all registration requirements and prerequisites have been met.

Registration Priority

Registration priority is based on the number of credits earned in the student's program.

Registration Period

All students should register within the Registration Period for each semester as outlined in the Academic Calendar. Registration dates for each semester are published on the UDST website.

Adding and Dropping Courses

After registering in courses, and during the Add/ Drop Period, students can adjust their schedule by registering into additional courses, changing course sections, or cancelling their course registration. No final grade is assigned to courses that are dropped during this period.

Withdrawing from Courses

At the conclusion of the Add/Drop Period, students can withdraw from a course(s) until the end of the Withdrawal Period. A final grade of W will be assigned.

Course Load and Credits

To ensure academic progress, students are encouraged to register on a full-time basis.

Course Load – Clear Standing (Undergraduate and Graduate Programs)

Semester	Academic Standing	Credential	Type of Study	Academic Load (Credits)	
				Min	Max
Fall and Winter	Clear Standing	Diploma	Full Time	12	18
	Clear Standing	Bachelor	Full Time	12	18
	Clear Standing	Master	Full Time	9	9
Spring and Summer	Clear Standing	Diploma	Full Time	6	9
	Clear Standing	Bachelor	Full Time	6	9
	Clear Standing	Master	Full Time	6	6

Course Load – Below Clear Standing (Undergraduate and Graduate Programs)

Semester	Academic Standing	Credential	Academic Load (Credits)
			Max
Fall and Winter	Below Clear Standing	Diploma	12
		Bachelor	12
		Master	6
Spring and Summer	Below Clear Standing	Diploma	6
		Bachelor	6
		Master	3

Registration

- Students registered in fewer than the minimum Credits for Full Time are classified as Part Time.
- Students enrolled in Undergraduate Programs and who have a Sponsor are required to register in a minimum of 12 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- International Students enrolled in Undergraduate Programs are required to register in a minimum of 12 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- International Students and Sponsored Students enrolled in Graduate Programs are required to register in a minimum of 9 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- The minimum and maximum Credits listed above does not apply to Students enrolled in Work Term Courses.

Course Load – Foundation Program

Semester	Subject	Academic Load		Optional UG Credits*
		Min. HRs.	Max. HRs.	
Fall and Winter	English	18	21	0 – 3*
	English/Mathematics	18	24	0 – 3**
	Mathematics	6	15	0 – 9**
Spring and Summer	English	30	30	0
	Mathematics	12	15	0 – 3**

* UG Math is the only optional UG course for students who are simultaneously registered in Level 3.

** Optional UG credits are dependent upon completion of UDST's English language requirement (Level 3 or Placement Test score).

- Students enrolled in the Foundation Program and registered in a minimum of 15 Contact Hours are considered Full Time.
- Students enrolled in Foundation Program and who have a Sponsor are required to register Full Time in a minimum of 15 Contact Hours.
- International Students enrolled in Foundation Program are required to register Full Time in a minimum of 15 Contact Hours.
- Foundation Program reserves the right to reduce the Contact Hours for Foundation Program Students on Academic Probation 1 or Academic Probation 2.

Course Limit Overload

Students who wish to register for extra courses must make application to the appropriate Dean.

Auditing a Course

Students may request to audit a course. Students wishing to audit a course must:

- Complete an Audit Request Form obtained from the Academic Unit and submit it to the Department Head for approval.
- A student may only register to audit a course if a seat is available.
- A student can only audit a specific course once during their UDST academic career.
- A student may only audit one course per semester.

Audited Courses will appear on the student's transcript with a grade of AU. Students may not audit Foundation Program courses.

Registration

Repeating a Course

Foundation Program

A student may repeat a course a maximum of two times. Only courses with a failing final grade can be repeated. Students who fail a course two times must obtain the approval of their Academic Advisor before registering in the course for the third time.

Undergraduate Students

Only courses with a final grade of D+ or lower can be repeated. A student may repeat a course a maximum of two times. Students who fail a course two times must obtain the approval of their academic advisor before registering in the course for the third time.

Graduate (Master) Students

Only courses with a final grade of C+ or lower can be repeated. A student may repeat a course a maximum of one time. Students who fail a course must obtain the approval of their academic advisor before registering in the course for the second time.

Graduate Students can register in a Thesis Course a maximum of four semesters. A Final Grade of IP (In Progress) is recorded for all registered semesters prior to the semester in which the Final Grade is awarded.

Grades for Repeated Courses

Grades for all attempts of a course appear on the official transcript. Only the highest final grade obtained from all attempts will be used in the calculation of the cumulative GPA. Courses transferred from another accredited higher education institution cannot be repeated for additional credit.

Independent Study

When required courses are not available in a particular semester, a student may make an application to the Department Head to register for such courses through independent study. Access to courses through independent study may be permitted when resources are available and with the permission of the Department Head. Strategies to ensure adherence to course requirements and assessment may be documented in contract format to be signed by the student and the Department Head. All applications must be processed by the end of the Add/Drop Period for the semester.

Inactive Registration

Students who have not been registered in a course for a period of 12 consecutive months will have their academic status changed to discontinued and will need to apply for re-admission.

Registering Discontinued Students

Discontinued students are required to be re-admitted to the University before registering in courses. Students who have not been enrolled for at least two years must re-take the English Language proficiency test in order to be considered for re-admission.

Student Responsibility

While Academic Advising is available, it is the responsibility of each student to ensure that courses in which he/she is registered are appropriate to the requirements of the student's chosen program.

Students are responsible for withdrawing from courses by published deadlines. Students who fail to do so are responsible for all outstanding fees and the resulting grade.

Program Transfer and Transfer Credit

Transferring between Programs or Plans

Programs are structured such that students can transfer to another program in their current College or can transfer to a program in a different College.

Program transfer must be completed before the following maximums:

- 33 Credits earned towards a Diploma.
- 60 Credits earned towards a Bachelor's degree.
- 9 Credits earned towards a Master's degree.

Students wishing to change their program or plan must discuss their request with an Academic Advisor and Sponsor (for sponsored students).

Approval for program transfer is dependent on the student satisfying the receiving Program's minimum requirements and capacity in the receiving program.

Internal Transfer Credit

Credits earned in other UDST programs may be used to fulfill the requirements of the receiving program. Internal transfer credit may be granted on an individual course or a block credit basis. Final grades for courses completed prior to the internal transfer and which have been accepted into the receiving program are computed into the student's cumulative GPA beginning at the point of entry to the receiving program.

Internal Transfer Credit Validity

Unless otherwise specified, credits earned at UDST are eligible for transfer consideration when completed within 5 years of transfer to the program.

Internal Transfer Credit Limits

The receiving Program may accept Credits earned at the University up to the following maximums:

- 33 Credits towards a Diploma.
- 60 Credits towards a Bachelor's degree.
- 9 Credits towards a Master's degree.

External Transfer Credit

Subject to satisfying admission requirements, students who have completed courses at another recognized higher educational institution may apply for external transfer credit.

Undergraduate students are eligible for external transfer credit consideration when:

1. The external course was completed with a final grade of C or higher; and
2. The external course was completed at the same year-level as the equivalent UDST course; and
3. The credits of the transfer course equal or exceed the credits of the equivalent UDST course.

When external transfer credit is awarded, only the equivalent UDST course is recorded on the transcript with an Exemption from Course notation of EN.

Graduate Students are eligible for external transfer credit consideration when:

1. The external course was completed with a final grade of B or higher; and
2. The external course must be completed at the same year-level as the equivalent UDST course; and
3. The credits of the transfer course equal or exceed the credits of the equivalent UDST course.

When external transfer credit is awarded, only the equivalent UDST course is recorded on the transcript with an Exemption from Course notation of EN.

External Transfer Credit Validity

Unless otherwise specified, credits earned at another institution are eligible for transfer consideration when completed within 5 years of transfer to UDST.

External Transfer Credit Limits

The student's program may accept external transfer credit from other institutions up to the following maximums:

- 33 Credits towards a Diploma.
- 60 Credits towards a Bachelor's degree.
- 9 Credits towards a Master's degree.

Master's Thesis

Credit for a Master's thesis cannot be transferred.

Course Exemption Status

When exemption status is awarded, a notation of EN is made on the transcript and the GPA is not affected. The University will consider exemptions for courses if the student received a passing grade.

The University will grant credit/exemption for a course successfully completed from a recognized public post-secondary institution, International Baccalaureate (IB), or Advanced Placement (AP), or A/S or A-Level programs even if that course is not offered at the University.

Credit for Prior Learning

It is the practice of the University that students will be given every opportunity to receive credit for past learning experience through a comprehensive systematic process of evaluation referred to as Prior Learning Assessment and Recognition (PLAR). Credits awarded for PLAR will be recorded on the student transcript as an exemption.

Letter of Permission

Students in Clear Standing (not on probation) without outstanding tuition or fees at UDST may take courses as part of their program at another post-secondary institution. Contact your Academic Advisor and the Admissions and Registration Directorate for additional information.

Assessment and Final Grades

Examinations and Tests

Dates for midterm and final examinations will be set in advance. No more than two midterms and final examinations will be scheduled for a student in a given 24-hour period.

Student evaluations will be conducted on a continuous basis. The method of evaluation will be recommended in the official course description.

Academic Members will not be permitted to give quizzes worth more than 10% of the total final mark in the two-week period prior to the start of final examinations. As well, no previously unassigned work may be assigned in the last two weeks of the semester.

This regulation does not apply to:

1. Courses with no final semester examinations.
2. Laboratory examinations.
3. Self-directed and modular courses.
4. Courses with block teaching.
5. Assignments given prior to this period that are due in the two weeks prior to examinations.
6. Courses offered in Spring and/or Summer (e.g., 5- to 7-week), for which the timeframe will be one week prior to the start of examinations.

Release of Grades

Final grades will be released at the end of each semester. Midterm grades will be available in the middle of each semester, with the exception of the Spring and Summer semesters.

Change of Final Grade

Once submitted, a final grade may be changed only at the request of the Academic Member delivering the Course, with the approval of the Department Head and Dean/Academic Manager. Any grade change submitted outside of the approved timeframe must be approved by the Vice-President, Academic.

Audit of the Final Grades

Students who feel that a final grade is not an accurate assessment of their course learning outcome may request an audit of the final grade by the Academic Member teaching the course in accordance with the relevant procedure.

If the discussion with the Academic Member does not result in a satisfactory resolution, the student may request that the matter be reviewed by the Department Head. If the Department Head is unable to settle the dispute to the student's satisfaction, the student may request a review of the grade(s) by the Dean for a final decision.

Re-Read of Final Examinations

Students may apply to have a final examination paper re-read. An application for re-read must be made in writing to the College.

The mark obtained in a re-read, whether higher or lower than the original mark, stands as the official mark in the course and is used in all calculations of the student's academic record.

Deferred Exams

Students who are prevented by illness, bereavement, or other extenuating circumstance, from writing a final examination, where one is scheduled, may apply for permission to write a deferred examination.

The deferred examination is the final examination for the individual concerned. Deferred exams are to be completed during the first week of the subsequent semester as per the dates specified in the Academic Calendar.

A request for deferred examination must be submitted to the appropriate Department Head as soon as possible after the date on which the regular examination was scheduled. The request for a deferred exam will be assessed by the appropriate Department Head in consultation with faculty members. Students should note that permission to write deferred examinations is a privilege, not a right, granted solely on the basis of extenuating circumstances. Students who are approved to write a deferred examination are temporarily assigned an AB (Absent) final grade until the deferred examination is completed and a final grade assigned.

Deferred Grade Changes

Deferred grade changes are processed as soon as they are received but no later than the third day of classes of the subsequent semester, and the Student's Academic Standing is updated.

Delay in Final Grade Submission

In the event that Final Grades are not submitted by the deadline specified in the academic calendar, a final grade of NS (Grade Not Submitted) is posted. An NS final grade must be cleared by the end of the third week after the beginning of the subsequent semester. If an NS final grade is not cleared by this date, students will receive a failing grade for the course.

Incomplete Grades

Subject to the approval of the appropriate Department Head, a final grade of IN (Incomplete) may be assigned when the mandatory components of the course are not completed by the end of the semester. An IN final grade must be cleared by the end of the third week after the beginning of the subsequent semester. If an IN final grade is not cleared by this date, students will receive a failing grade for the course.

Where extenuating circumstances warrant, the Admissions and Registration Directorate, at the request of the Department Head, may approve the extension of the deadline to clear an IN final grade.

In Progress Grades

An IP (In Progress) grade is a non-factorable placeholder grade assigned for a course that extends beyond the regular semester. Students who earned an IP grade are required to re-enroll in the course in the subsequent semester, the IP grade remains on the transcript, and the final grade for the course is recorded in the final semester of registration.

Assessment and Final Grades

Audited Course

Students who have been granted approval to audit a course are assigned a final grade of AU (Audited Course). An AU final grade is not included in the student's GPA calculation.

Fail Grade for Absenteeism

Students who exceed the allowable limit for absenteeism in a Course are assigned a final grade of AF (Attendance Fail). An AF final grade is a failing grade that is included in the student's GPA calculation.

Exemption from Course

Students who have been granted an exemption from a course are assigned a final grade of EN (Exemption from Course). An EN final grade is not included in the student's GPA calculation.

Foundation and Undergraduate Grading Scheme

Effective in the Fall 2021 semester, Foundation and Undergraduate (Diploma and Bachelor's degree) level courses utilize the following grade scheme:

Letter Grade	Percentage	Grade Points	Description
A	90 to 100	4.00	Excellent
B+	85 to <90	3.50	Very Good
B	80 to <85	3.00	Very Good
C+	75 to <80	2.50	Good
C	70 to <75	2.00	Good
D+	65 to <70	1.50	Pass
D	60 to <65	1.00	*Pass
F	Less than 60	0.0	Fail
AF		0.0	Attendance Fail

*The passing grade for Foundation Program English courses and the Foundation Year in Health Sciences courses is 70%.

Graduate Grading Scheme

Effective the Fall 2021 semester, all credit courses at the Graduate level utilize the following grade scheme:

Letter Grade	Percentage	Grade Points	Description
A	90 to 100	4.00	Excellent
B+	85 to <90	3.50	Very Good
B	80 to <85	3.00	Very Good
C+	75 to <80	2.50	Good
C	70 to <75	2.00	Good
F	Less than 70	0.0	Fail
AF		0.0	Attendance Fail

Non-Calculable Grades

Letter Grade	Grade Points	Description
AB	Non-factorable	Deferred Grade
AU	Non-factorable	Audited Course
EN	Non-factorable	Exemption from Course
IN	Non-factorable	Incomplete
IP	Non-factorable	In Progress
NS	Non-factorable	Grade Not Submitted
P	Non-factorable	Passing Grade in a Pass/ Fail Course
W	Non-factorable	Withdraw

Grade Point Average (GPA) Calculation

A grade point average (GPA) is a weighted average calculation using grade points earned and credit values of courses attempted and is used to measure a student's academic performance. A GPA can range from 0.00 to 4.00.

Grade points earned per course is determined by multiplying the credit value of each course by the grade points associated with each final grade received. Example: a final grade of B+ corresponds to 3.50 grade points.

Credits	Letter Grade	Grade Points	Total Grade Points
3	B+	3.50	3 x 3.50 = 10.50

Term GPA is calculated by dividing the sum of all total grade points achieved in a semester by the sum of all credits attempted in that semester. Term GPA appears on the student's transcript.

Credits	Letter Grade	Grade Points	Total Grade Points
3	B+	3.50	3 x 3.50 = 10.50
3	B	3.00	3 x 3.00 = 9.00
4	A	4.00	4 x 4.00 = 16.00
3	C+	2.50	3 x 2.50 = 7.50
13			43
Term GPA: 43 / 13 = 3.30			

Cumulative GPA is calculated by dividing the sum of all total grade points achieved in a program by the sum of all credits attempted in that program. Cumulative GPA appears on the student's transcript.

Total Grade Points	Total Credits	Cumulative GPA
130	36	3.61

A student's cumulative GPA does not change after a credential has been awarded.

Courses that are not included in the requirements for graduation will not be included in the calculation of the GPA. When a course is repeated, the highest mark attained will be used in the calculation of the GPA.

When students complete more than the minimum number of electives, the Director, Admissions and Registration will select which electives will be used in the calculation of the GPA.

Student Records

Transcripts

Students have the right to receive transcripts of their own academic record.

a. Official transcripts may be obtained at any time from the Admissions and Registration Directorate upon proper application.

b. A transcript depicts the student's complete academic record including awards and academic standing. Questions or concerns about an official transcript should be directed to the Director, Admissions and Registration.

c. Actions of the Academic Appeals Committee are permanently recorded on student academic records and transcripts.

Transcripts or grade reports will not be released to third parties without the prior written approval of the student. In cases where students have outstanding accounts with the University, UDST will not release official transcripts or other graduation documentation.

Academic Documentation

Transcripts and graduation certificates will be withheld from a student who is in possession of UDST property such as books, equipment or supplies, or who has other obligations to the University.

Academic Status

ACADEMIC STANDING – FOUNDATION PROGRAM

Academic Standing is assessed for students starting in their first semester in the Foundation Program. The following Academic Standings are applied to Foundation Program Students based on their academic performance:

Clear Standing

At the conclusion of the semester, the Academic Standing is updated to Clear Standing when Foundation Program students have earned passing Final Grades in all Academic Preparatory Courses.

Credit courses and the resulting Cumulative GPA are excluded from the Academic Standing assessment for Foundation Program students.

Academic Probation 1

At the conclusion of the semester, the Academic Standing is updated to Academic Probation 1 when a student fails an Academic Preparatory Course for the first time, regardless of the Cumulative GPA.

Academic Probation 2

At the conclusion of the semester, the Academic Standing is updated from Academic Probation 1 to Academic Probation 2 when a student fails an Academic Preparatory Course on the second attempt, regardless of the Cumulative GPA.

Academic Dismissal

At the conclusion of the semester, the Academic Standing is updated from Academic Probation 2 to Academic Dismissal when a student fails an Academic Preparatory Course on the third attempt, regardless of the Cumulative GPA.

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of 150% from the first semester of registration in the Foundation Program are subject to Academic Dismissal.

The maximum enrollment duration depends on the student's level of placement into the Foundation Program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

Additional Information

Academic Standing for Foundation Program students is assessed at the end of every semester.

ACADEMIC STANDING – UNDERGRADUATE PROGRAMS

Academic Standing is assessed for students starting in their second semester in their Undergraduate Program. The following Academic Standings are applied to Undergraduate Students based on academic performance:

Clear Standing

At the conclusion of the semester, the Academic Standing is updated to Clear Standing when Undergraduate Students have earned a Cumulative GPA of at least 2.00.

Academic Probation 1

The Academic Standing is updated from Clear Standing to Academic Probation 1 for students who fail for the first time to achieve a Cumulative GPA of at least 2.00.

Academic Probation 2

The Academic Standing is updated from Academic Probation 1 to Academic Probation 2 for students who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration.

Academic Dismissal

The Academic Standing is updated from Academic Probation 2 to Academic Dismissal for students who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration.

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of their respective Program by 150% are subject to Academic Dismissal.

The maximum enrollment duration is counted from the first semester of registration in the program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

Additional Information

Academic Standing for Undergraduate students is assessed at the end of the Fall and Winter Semesters and is noted on the student's Transcript. Academic Standing is assessed at the end of the Spring Semester only for those students who were previously on Academic Probation 1 or 2 and have achieved a minimum 2.00 CGPA for the Spring semester.

ACADEMIC STANDING – GRADUATE PROGRAMS

Academic Standing is assessed for students starting in their first semester in their Graduate Program. The following Academic Standings are applied to Graduate Students base on academic performance:

Clear Standing

At the conclusion of the semester, the Academic Standing is updated to Clear Standing when Graduate Students have earned a Cumulative GPA of at least 3.00.

Academic Probation

The Academic Standing is updated from Clear Standing to Academic Probation for students who fail for the first time to achieve a Cumulative GPA of at least 3.00.

Academic Dismissal

The Academic Standing is updated from Academic Probation to Academic Dismissal for students who fail to achieve a Cumulative GPA of at least 3.00 at the end of the following semester of registration.

Failing a Graduate Course

Students who achieve a failing Final Grade in a Graduate Course on the second attempt are subject to Academic Dismissal.

Graduate Students also face Academic Dismissal for the following:

- Fail to pass the Comprehensive Examination on the second attempt; or
- Fail to pass the Candidacy Examination on the second attempt; or
- Fail to pass the Dissertation Examination on the second attempt.

Academic Status

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of their respective program by 150% are subject to Academic Dismissal.

The maximum enrollment duration is counted from the first semester of registration in the program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

Additional Information

Academic Standing for Graduate students is assessed at the end of the Fall and Winter Semesters and is noted on the Graduate Student's Transcript. Academic Standing is assessed at the end of the Spring Semester only for those students who were previously on Academic Probation and have achieved a minimum 3.00 CGPA for the Spring semester.

RE-ADMISSION OF ACADEMICALLY DISMISSED STUDENTS

1. Students who are academically dismissed from the University must apply for re-admission.
2. Students who have been Academically Dismissed will not be eligible for re-admission to the same program.
3. Academically Dismissed students may apply for Admission to another program in the subsequent semester.
4. Students who have been Academically Dismissed from two Undergraduate Programs, excluding the Foundation Program, or two Graduate Programs are not eligible to return to the University.

Student Appeals

All students of the University have the right to appeal decisions or rulings that pertain to specific academic or conduct matters.

Students may initiate a Student Appeal for decisions pertaining to the following categories only:

- An Academic Dismissal; or
- A Student Misconduct finding resulting in a suspension or an expulsion.

It is the responsibility of the student to present evidence that supports their Student Appeal, such as:

- Substantial procedural and/or factual error occurred in the administration of the appealed decision, and/or;
- Documentation or information is available that would affect the appealed decision, and/or;
- The appealed disciplinary decision is unduly harsh;
- In the case of Academic Dismissal, there is no reasonable expectation that the appellant can either achieve Clear Standing or can graduate if granted a one-semester extension.

All requests for Student Appeals related to Student Misconduct resulting in a suspension or an expulsion will be submitted to the Student Appeals Committee.

All requests for Student Appeals related to Academic Dismissal will be submitted to the Academic Appeals Committee.

In fulfilling their role, the Student Appeals Committee and Academic Appeals Committee will ensure that the Student Appeals Policy and Procedures are fairly and consistently applied and that the appeal decision serves the best interest of our students, the University and the community we serve.

Successful Academic Dismissal appeals result in the student being granted a one semester extension. Students wishing to appeal must complete an appeal application (available from the Admissions and Registration Directorate) with information and documentation supporting their appeal. Please consult the Academic Calendar for the deadline to submit a Student Appeal and when Student Appeals will be heard.

The original decision which is being appealed remains in effect unless and until it is overturned on Appeal. Submitting a Student Appeal will not prevent the decision being appealed from being enforced. The decision of the Student Appeals Committee and the Academic Appeals Committee can be appealed to the University President.

For additional information or advice concerning appeals, please consult Student Central Services or the Admissions and Registration Directorate.

Attendance and Punctuality Standards

The University recognizes that regular Attendance and participation in class is fundamental to student success.

The maximum allowable limit for absenteeism is 15% of Learning Sessions per Course during a semester. Students exceeding the allowable limit for absenteeism in a course will receive a failing grade for that course, regardless of their performance. The Academic Units may identify specific Learning Sessions, absenteeism from which will lead to a failing grade in the corresponding course.

The University expects all students to be on time for Learning Sessions. Learning Sessions will commence as listed in the student's schedule. Students arriving after commencement of the Learning Session or departing prior to the completion of the Learning Session may be recorded as "Absent" in the Attendance System at the discretion of the Academic Member.

For safety and operational reasons, the Academic Member may, for certain laboratory Learning Sessions, prohibit students from entering after the Learning Session has commenced. Students arriving late may be prevented from entering the Learning Session and will be recorded as "Absent" in the Attendance System.

All non-attendance will be factored into the student's attendance computation.

Attendance and punctuality standards will be included in the Course Syllabus and communicated to students by Academic Members on their first day of the course.

Attendance Recording

Attendance recording and calculation starts after the end of the Add/Drop Period and ends on the last Learning Session of that course. Academic Members must record Student Attendance into the Attendance System within 24 hours of the Learning Session.

Attendance absence percentage is calculated per course based on the total amount of time the course is scheduled to meet for the semester.

Absence

Students who have an extenuating circumstance for being absent must email their request and appropriate supporting documentation to the Admissions and Registration Directorate within two business days of the student's return to the Learning Session. Extenuating circumstances include:

- Medical notes validated by the Ministry of Public Health
- Bereavement for spouse, parent, grandparent, child, or sibling
- Maternity
- Chronic illness

Extenuating circumstances will be recorded in the Attendance System as a Documented Absence but will still be included in the student's Total Absence percentage.

Absence from a Learning Session does not relieve students from completing any missed Course Requirements. The Academic Member may grant students an extension for completion of Course Requirements if substantiating evidence is provided.

Placements (Clinical and Work Terms)

Students, who are enrolled in a Placement as part of their Program, are responsible for ensuring that they adhere to the attendance standards set by the Placement provider.

Students exceeding the allowable limit for absenteeism in a course set by the Placement provider, where it is lower than the standard set by this Policy, will receive a failing grade for that course.

Absenteeism Notification

Throughout the semester, notification will be provided to students who exceed 10% absenteeism. This data will be shared with the Academic Units and Sponsors. These students will be advised to meet with their Academic Advisors who will recommend an appropriate course of action. Where it is reasonable or foreseeable to expect that the 15% maximum allowable limit for absenteeism will be exceeded, students, in consultation with their Academic Advisor, will be advised to Withdraw from the Course by the end of the Withdrawal Period.

Up to and including the last day of the Learning Session, notification will be provided to students who have failed the course by exceeding the 15% maximum allowable limit for absenteeism. Students who fail a course for absenteeism may remain in the course but will not be eligible to attend the Final Examination in that course. Academic Members will be notified to assign an Attendance Fail (AF) Final Grade to students who fail the course for exceeding this maximum allowable limit.

Attendance Review

Students who feel that their Attendance has not been accurately recorded in the Attendance System should discuss the matter with the Academic Member teaching that Learning Session. This should be done within five business days of the Learning Session in question.

If the discussion with the Academic Member does not result in a satisfactory resolution, the student may request that the matter be reviewed by the Department Head. This should be done within two business days of the Academic Member's decision.

If the student is not satisfied with the decision from the Department Head, the matter may be escalated to the Dean or Academic Manager for a final decision. Such a request should be made within three business days of the Department Head's decision.

Petition

In extenuating and unforeseeable circumstances, students who exceed the 15% maximum allowable limit for absenteeism can petition the Attendance Fail (AF) Final Grade to the Department Head. Careful consideration will be given to the extenuating nature of the circumstance and when the absenteeism occurred in the semester. Successful petitions will result in the student being Withdrawn from the Course and a Final Grade of W assigned. No refund will be issued.

In certain extenuating and Documented Absence circumstances, the Dean may grant an exception to students who have exceeded 15% absence.

Academic Awards

The University offers opportunities to students in many programs to receive a number of academic awards and prizes. Some academic awards have monetary value which are presented in recognition of specific academic achievements.

Criteria for Academic Awards:

1. Unless otherwise stated, applications are not required in order to be considered for Academic Awards.
2. No monetary award will be awarded to a candidate who holds an award of equal or greater value.
3. Student must be currently enrolled in a recognized university program and have completed at least two semesters (excluding Spring/Summer) in the previous academic year as a full-time student.
4. Return graduates will only be considered if they are currently enrolled in a recognized university program and have completed at least two semesters (excluding Spring/Summer) in the previous academic year as a full-time student in the same program.
5. For academic awards which selection criteria is based on weighted average, a minimum of 80% weighted average applies.
6. The weighted average will be calculated for the students based on the program they were enrolled in the previous academic year.
7. Only the courses that the students have actually enrolled in the previous academic year will be included in their weighted average.
8. There are different eligibility criteria for each Academic Award.

The awards listed in this section are subject to change. Refer to the University's website for updates on academic awards.

Recognition

Academic awards administered by the University will be recorded on the recipient's academic transcript.

AWARD	QUANTITY	DESCRIPTION	AWARD
Academic Excellence Award (Master Degree)	1	Awarded to a FINAL YEAR Master's degree student with the highest weighted average from the previous academic year at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award (Bachelor Degree)	1	Awarded to a FINAL YEAR Bachelor degree student with the highest weighted average for the previous academic year at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award (Advanced Diploma)	1	Awarded to a FINAL YEAR Advanced Diploma student with the highest weighted average for the previous academic year at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award (Two-Year Diploma)	1	Awarded to a FINAL YEAR Diploma student with the highest weighted average for the previous academic year at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Merit Award	8	Awarded to the two undergraduate students with the highest weighted average from each College after the selection of the Academic Excellence Awards recipients.	Cash award of QR10,000 (paid in two installments) and a Crystal
Academic Distinction Award	24	Awarded to the top six undergraduate students with the highest weighted average from each College after selection of the Academic Excellence and Academic Merit Awards recipients.	Medal and Certificate
Foundation Program Award	4	Awarded to two students from Foundation English and two students from Foundation Math.	Plaque and Certificate

Academic Awards

* Not Specified (NS), as there is no limited number of awardees.
All students who meet the award criteria are eligible.

AWARD	QUANTITY	DESCRIPTION	AWARD
Industrial Trades Dean Award	5	Awarded to 5 students from the Industrial Trades programs (four awards for TCP, and one award for TC) in recognition of their academic achievements.	Plaque and Certificate
Achievement Award	NS*	Awarded to the eligible students in order to recognize their achievement in improving their English language skills and exceling in their study until the point of graduation.	Certificate
Applied Research Award	1	Awarded to the nominated student based on participation in internal or external research programs presentation of research at National and/or International events, and/or the number of publications resulting from engagements with research projects.	Crystal and Certificate
Innovation Award	1	Awarded to the nominated student based on an innovative Capstone Project, Business Case, Entrepreneurial Proposal, internal or external innovation competitions where the student represented the University.	Crystal and Certificate
Best Student Research on Countering Terrorism	1	This award recognizes a student who has made the best research on countering terrorism – as part of an institution strives to promote the local society's peace and security.	Certificate, Gift and the winner's research will be published on UDST website
Dean's List	NS*	1. Student must have passed all the courses in the semester; 2. Student must have a semester GPA of 4.00 (not a cumulative GPA); 3. Student must be a full-time credit student in the semester; 4. If the student is a full-time credit student and is enrolled in a preparatory course in a term, the preparatory course must have a grade of at least 90% since GPA of 4.00 equates to a grade of 90%; 5. Students are nominated by Admissions and Registration Directorate to the VP Academic based on GPA.	Notation on the transcript and Announcement on the website
President's Award for Academic Excellence	NS*	Awarded to one graduate from each program who attains the highest weighted average in their program. 1. The students must be considered a graduate/ potential graduate upon the Graduation Ceremony date 2. Students must have a minimum of 80% weighted average and a minimum cumulative GPA of 3.60 3. Students are nominated by Admissions and Registration Directorate to the VP Academic based on GPA.	Crystal, Sash, and Certificate
Graduate with Honors	NS*	Graduates with cumulative GPA of 4.00 will receive Highest Honors transcript notation. Graduates with cumulative GPA of 3.80 to 3.99 will receive High Honors transcript notation. Graduates with cumulative GPA of 3.50 to 3.79 will receive Honors transcript notation.	Highest Honors – Gold cord, trophy High Honors and Honors – Silver cord

دفعة
Class of 22
تهـانينا دفعـة 2022
Congratulations Class of 2022
تهـانينا دفعـة 2022
Congratulations Class of 2022

Graduation

Students must meet the following criteria to be eligible to graduate:

- Successfully completed all courses pertaining to their program plan
- Achieved a clear academic standing
- Achieved a minimum GPA of 2.00 for undergraduate programs and a minimum GPA of 3.00 for graduate programs
- Cleared all outstanding fees
- Returned all University equipment and books

It is the student's responsibility to ensure that all program requirements have been met. Submission of the "Apply for Graduation" form through the Student Self-Service portal by the required deadlines ensures that the Admissions and Registration Directorate will have the opportunity to review the student's program requirements and complete an audit. Students should be aware that courses not required for their program will not be used to calculate their final Cumulative GPA.

Students may graduate after completing their program requirements. However, there is only one official Graduation Ceremony which is held in the Spring.

Applying to Graduate

Students are eligible to graduate after completing all program requirements in the Fall, Winter or Spring semester. Only one official Graduation Ceremony will be held in the Spring. All students who had degrees conferred the previous Fall or Winter, and those who are eligible to graduate in the Spring, will be listed in the official Spring Graduation Ceremony Program. Students must submit an application to graduate by the published deadline to be considered for graduation.

Conferral Dates and Graduation Application Deadlines:

Fall Graduation:

Conferred four weeks after the release of Fall Final Grades. The last day to submit an application to the Admissions and Registration Directorate to graduate in Fall is October 15.

Winter Graduation:

Conferred on the Spring Convocation date. The last day to submit an application to the Admissions and Registration Directorate to graduate in Winter is February 15.

Spring Graduation:

Conferred four weeks after the release of Spring Final Grades. The last day to submit an application to the Admissions and Registration Directorate to graduate in Spring is March 15.

Summer Graduation:

Conferred on September 15. The last day to submit an application to the Admissions and Registration Directorate to graduate in Summer is March 15.

If a student is graduating from more than one program, an application to graduate must be submitted to the Admissions and Registration Directorate for each credential.

Parchment Replacement

To replace a lost parchment, a declaration from the student to verify that the parchment has been lost, stolen or destroyed is required. Replacement parchments will be produced for the Credential Conferral Date only.

Tuition and Fees

Effective in the Fall 2022 Semester, students are assessed the following tuition fees:

1. Foundation and Diploma Programs

1.1 Foundation and Diploma Programs (New Admits and Returning Graduates Only)

Description	Full-Time Students (Qatar Residents)	Full-Time Students (International)	Part-Time Students (Qatar Residents Only)
Tuition Fee	QAR 12,500 per semester	QAR 18,750 per semester	QAR 2,500 per course
Materials and Supplies Fee	QAR 150 per semester	QAR 150 per semester	QAR 25 per course
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year	QAR 150 per academic year

1.2 Foundation and Diploma Programs (Students admitted before Fall 2020)

	Non Sponsored		Sponsored	
Description	Full-Time Students	Part-Time Students	Full-Time Students	Part-Time Students
Tuition Fee	QAR 10,000 per semester	QAR 2,000 per course	QAR 15,000 per semester	QAR 3,000 per course
Materials and Supplies Fee	QAR 150 per semester	QAR 25 per course	QAR 150 per semester	QAR 25 per course
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year	QAR 150 per academic year	QAR 150 per academic year

For the purpose of tuition assessment, the following definitions apply:

New Admits: A Student enrolled for the first time on or after the Fall 2020 semester.

Returning Graduates: A CNA-Q/UDST graduate enrolled in a new program on or after the Fall 2020 semester.

International Students: A Student who is not a citizen or resident of the State of Qatar and is issued their Qatari Residence Permit under University Sponsorship.

- **Full time:** A Foundation student with 15 or more "contact hours" (bill units) ora Diploma Student with 12 or more credits
- **Part Time:** A Foundation student with less than 15 "contact hours" (bill units) or a Diploma Student with less than 12 credits

Continuing Student: A student continuing from previous semesters and was enrolled for the first time prior to Fall 2020.

Spring and/or Summer semester tuition is waived for all Diploma Program students who were registered as Full-Time students in the Fall or Winter semesters of the same academic year.

1.3 Technician Certificate Program (TCP)

	Students admitted on/after Fall 2020		Students admitted before Fall 2020	
Description	Full-Time Students	Part-Time Students	Full-Time Students	Part-Time Students
Tuition Fee	QAR 12,500 per semester	QAR 2,500 per course	QAR 15,000 per semester	QAR 3,000 per course
Materials and Supplies Fee	QAR 150 per semester	QAR 25 per course	QAR 150 per semester	QAR 25 per course
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year	QAR 150 per academic year	QAR 150 per academic year

Students admitted before Fall 2020

For students enrolled prior to Fall 2020 and still continuing, Spring and/or Summer semester tuition is waived for TCP students who were registered as full-time students in the Fall and Winter semesters of the same academic year.

Work-term - One full time semester fee is applicable for the Work site practicum:
Full time: A Student with 15 or more "contact hours" (bill units)
Part Time: A Student with less than 15 "contact hours" (bill units)

A maximum annual fee of QAR. 30,000 applies.

1.4 Bachelor's/Post-Diploma/Pre-Master Degree Programs

Colleges	Rate per Credit (Qatar Residents)	Rate per Credit (International Students)
Business	QAR 975	QAR 1,463
Computing and Information Technology	QAR 975	QAR 1,463
Engineering and Technology	QAR 980	QAR 1,470
Health Sciences	QAR 985	QAR 1,478
Post-Diploma Bachelor – Health Sciences	QAR 985	QAR 1,478
Pre-Master's – Business	QAR 975	QAR 1,463
Materials and Supplies Fee	QAR 150 per semester	QAR 150 per semester
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year

Tuition and Fees

1.5 Graduate Programs (Master's Degrees)

Colleges	Rate per Credit (Qatar Citizens and Residents)	Rate per Credit (International Students)
Business	QAR 2,165	QAR 2,194
Computing and Information Technology	QAR 2,165	QAR 2,194
Engineering and Technology	QAR 2,176	QAR 2,205
Health Sciences	QAR 2,187	QAR 2,216
Materials and Supplies Fee	QAR 150 per semester	QAR 150 per semester
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year

Graduate degree program (Master's Degrees) fees apply to Qatari and non-Qatari students.

1.6 Postgraduate Diploma

Colleges	Rate per Credit (Qatari Citizens and Residents)	Rate per Credit (International Students)
Interprofessional Neonatal Intensive Care	QAR 2,187	QAR 2,156
STEM/ TVET Education	QAR 2,165	QAR 2,194
Materials and Supplies Fee	QAR 150 per semester	QAR 150 per semester
Student Services Fee	QAR 150 per academic year	QAR 150 per academic year

Graduate degree program (Master's Degrees) fees apply to Qatari and non-Qatari students.

An International Student is student who is not a citizen or resident of the State of Qatar and is issued their Qatari Residence Permit under University Sponsorship.

Effective Spring 2022 Semester, the following per course work term fees apply:

2. Work Term Fees

2.1 Work Term Fees (per course)

Colleges	Fee per Course
Business	QAR 5,000 each course
Computing and Information Technology	QAR 5,000 each course
Engineering and Technology	QAR 5,000 each course
Health Sciences (except below courses)	QAR 3,000 (practice courses up to 240 hours) QAR 5,000 (practice up to 360 hours) QAR 7,000 (practice courses up to 560 hours)

2.2 Health Sciences (per the below course table):

Course Code	Course Name	Credit	Total Clinical HRs	Program	Course Fee
HSDH3160	Dental Hygiene Practice I	3	144	B.Sc. DH	QAR 3000
HSDH3260	Dental Hygiene Practice II	3	144	B.Sc. DH	QAR 3000
HSDH3360	Dental Hygiene Practice III	2	84	B.Sc. DH	QAR 3000
HSDH4160	Dental Hygiene Practice IV	3	144	B.Sc. DH	QAR 3000
HSDH4260	Dental Hygiene Practice V	2	72	B.Sc. DH	QAR 3000
HSEH3310	Environmental Health Practicum I	4	240	B.Sc. EH	QAR 3000
HSEH4310	Environmental Health Practicum II	4	240	B.Sc. EH	QAR 3000
HSMR2301	Radiographic Clinical Orientation	1	36	B.Sc. MR	QAR 3000
HSMR3101	Clinical Radiography I	8	490	B.Sc. MR	QAR 7000
HSMR3201	Clinical Radiography II	7	420	B.Sc. MR	QAR 7000

Tuition and Fees

2.2 Contd...

Course Code	Title	Credit	Clinical	Program	Course Fee
HSMR3306	Clinical Radiography III	3	210	B.Sc. MR	QAR 3000
HSMR4301	Clinical Radiography IV	7	420	B.Sc. MR	QAR 7000
HSMR4302	Exploratory Specialized Imaging Practicum	6	360	B.Sc. MR	QAR 5000
HSOH4200	Occ. Health, Safety & Environment Degree Practicum	8	480	B.Sc. OHSE	QAR 7000
HSOH4300	OHS&E Diploma Practicum	6	240	Dip. OHSE	QAR 3000
HSPA2212	Clinical Practice in Paramedicine II	2	96	Dip. PCP	QAR 3000
HSPA3341	Ambulance Practicum	8	504	Dip. PCP	QAR 7000
HSPA4132	Paramedic Integration II	2	96	B.Sc. P	QAR 3000
HSPA4233	Paramedic Integration III	4	96	B.Sc. P	QAR 3000
HSPA4342	Critical Care Practicum	8	504	B.Sc. P	QAR 7000
HSPT2300	Clinical Work Term	6	360	Dip. PT	QAR 5000
HSPT4200	Pharmacy Technology Work Term	8	480	B.Sc. PT	QAR 7000
HSRT2310	Respiratory Therapy Clinical Application I	1	36	B.Sc. RT	QAR 3000
HSRT2340	Respiratory Therapy Clinical Application II	1	36	B.Sc. RT	QAR 3000
HSRT3240	Respiratory Therapy Clinical Application III	1	60	B.Sc. RT	QAR 3000
HSRT3310	Respiratory Therapy Clinical Application IV	2	72	B.Sc. RT	QAR 3000
HSRT3330	Respiratory Therapy Practicum I	4	245	B.Sc. RT	QAR 5000
HSRT4200	Respiratory Therapy Practicum II	9	525	B.Sc. RT	QAR 7000
HSRT4300	Respiratory Therapy Practicum III	9	525	B.Sc. RT	QAR 7000
MACC5230	Advanced Clinical Integration I	3	120	M.Sc. CCP	QAR 3000
MACC5300	Intensive Care Practicum	3	168	M.Sc. CCP	QAR 3000
MACC6210	Advanced Clinical Integration II	4	240	M.Sc. CCP	QAR 3000
MACC6300	Critical Care Paramedicine Preceptorship	6	294	M.Sc. CCP	QAR 5000
MADC5310	Diabetes Educator Practicum	5	245	M.Sc. DCPE	QAR 5000
NUMW1320	Introduction to Midwifery Practice	3	120	B.Sc. Mw	QAR 3000
NUMW2240	Midwifery Practice I	4	208	B.Sc. Mw	QAR 3000
NUMW2340	Midwifery Practice II	4	224	B.Sc. Mw	QAR 3000
NUMW3040	Midwifery Practice III	4	208	B.Sc. Mw	QAR 3000
NUMW3150	PD Introduction to Midwifery Practice	2	120	PDip. B.Sc. Mw	QAR 3000
NUMW3240	Midwifery Practice IV	5	312	B.Sc. Mw	QAR 5000

Tuition and Fees

2.2 Contd...

Course Code	Title	Credit	Clinical	Program	Course Fee
NUMW3250	Midwifery Practice I	2	120	PDip. B.Sc. Mw	QAR 3000
NUMW3340	Exploratory Practice for Midwives	5	280	B.Sc. Mw	QAR 5000
NUMW3350	PD Midwifery Practice II	3	168	PDip. B.Sc. Mw	QAR 3000
NUMW4040	Midwifery Practice V	9	520	B.Sc. Mw	QAR 7000
NUMW4150	PD Midwifery Practice III	10	560	PDip. B.Sc. Mw	QAR 7000
NUMW4240	Consolidation of Midwifery Practice	9	520	B.Sc. Mw	QAR 7000
NUMW4250	PD Consolidated Midwifery Practice	10	560	PDip. B.Sc. Mw	QAR 7000
NUMW4350	PD Exploratory Practice for Midwives	5	280	PDip. B.Sc. Mw	QAR 5000
NUPN2050	Practical Nursing Practice for Families	3	192	Dip. PN	QAR 3000
NUPN2060	Practical Nursing Consolidation	5	320	Dip. PN	QAR 5000
NURS1040	Health & Health Systems	4	36	Dip. PN	QAR 3000
NURS1050	Person & Family Centered Practice	3	100	Dip. PN	QAR 3000
NURS2050	Nursing Practice for Acute Health	3	192	Dip. PN	QAR 3000

Tuition Fee-Exempt Students:

1. Tuition exemption applies to Undergraduate and Foundation Program Students only. The Tuition Fee-Exempt Students are categorized as follows, for students applying for admission for the first time, applying for re-admission, or continuing from the previous semester:
   - 1.1 Qatari Students (self-sponsored): 100% Tuition Fee waiver.
   - 1.2 Qatari Students (sponsored by a third party): 100% Tuition Fee waiver.
   - 1.3 Children of Qatari mothers: 100% Tuition Fee waiver.
   - 1.4 Children of UDST - sponsored non-Qatari University employees: 50% Tuition Fee waiver.

2. Students not falling within the categories identified in clause 1 above and sponsored non-Qatari Students, will pay the standard Tuition Fee rate as established and approved by the Board of Trustees for all Programs.

3. The Tuition-Fee Exemption does not apply to Technician Certificate Program (TCP), Graduate and Post-Graduate Diploma Program students.

Tuition Refund and Administrative Fee Schedules:

1. With the exception of Tuition Fee-Exempt Students, Students who Drop or Withdraw from one or more Courses are responsible for the associated Tuition Fees subject to Schedules 1 and 2.

2. Tuition Fee-Exempt Students who Drop or Withdraw from one or more Courses, will be subject to administrative fees, as indicated in Schedules 1 and 2.

3. Students are responsible for initiating their own refunds and are required to complete the Student Revenue Refund Form. Forms are available from the Finance Department.

4. Tuition refunds will be issued by using the same method of payment used to pay tuition fees from the Finance Department, where possible. All refund amounts will be applied against outstanding accounts before any money is returned to the student.

Tuition and Fees

Schedule 1: Tuition Refund and Administrative Fee Schedule for Fall and Winter Semester:

Tuition Fee Refund

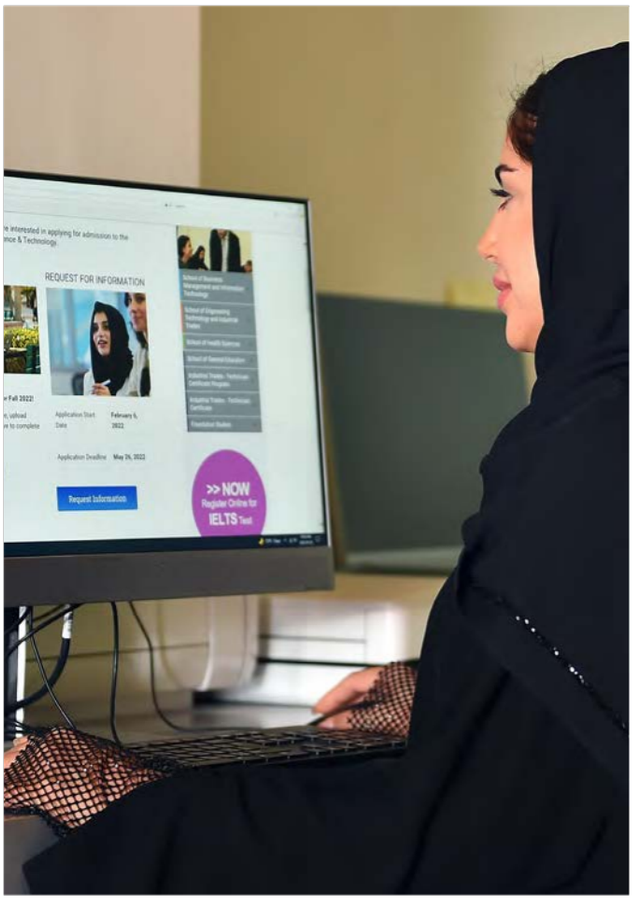
Fee-paying Students who Drop or Withdraw from one or more Courses are eligible to receive the following tuition refund:

Week	All programs
Week 1 (until the last day to Add/Drop)	No tuition assessed during the Add/Drop period
Week 2	75% refund
Week 3	50% refund
Week 4	25% refund
Week 5 and thereafter	0% refund

Administrative Fees for Tuition-Exempt Students

Tuition Fee-Exempt Students who Drop or Withdraw from one or more Courses are subject to the following Administrative Fee:

Week	Foundation	Diploma	Bachelor's/ Post-Diploma Bachelor/ Pre-Master Degree
Week 1 (until the last day to Add/Drop)	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop
Week 2	QAR 1,000	QAR 1,000	QAR 250 per credit
Week 3 and thereafter	QAR 2,000	QAR 2,000	QAR 500 per credit



Schedule 2: Tuition Refund and Administrative Fee Schedule for Spring and/or Summer Semester:

Tuition Fee Refund

Fee-paying Students who Drop or Withdraw from one or more Courses are eligible to receive the following tuition refund:

Week	All programs
Week 1 (until the last day to Add/Drop)	No tuition assessed during the Add/Drop period
Week 2	75% refund
Week 3	50% refund
Week 4 and thereafter	0% refund

Administrative Fees for Tuition-Exempt Students

Tuition Fee-Exempt Students who Drop or Withdraw from one or more Courses are subject to the following Administrative Fee:

Week	Foundation	Diploma	Bachelor's/ Post-Diploma Bachelor/ Pre-Master Degree
Week 1 (until the last day to Add/Drop)	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop
Week 2	QAR 1,000	QAR 1,000	QAR 250 per credit
Week 3 and thereafter	QAR 2,000	QAR 2,000	QAR 500 per credit

Repeating a Course:

1. All Students, including Tuition Fee-Exempt Students, are charged Tuition Fees for repeating any course with a Final Grade. This includes the following Final Grades:

Letter Grade	Grade Points	Description
C+	2.50	Good (Applicable for Graduate Programs Only)
C	2.00	Good (Applicable for Graduate Programs Only)
D+	1.50	Pass
D	1.00	Pass
F	0.0	Fail
AF	0.0	Attendance Fail
AU	Non-factorable	Audited Course
IN	Non-factorable	Incomplete
P	Non-factorable	Passing Grade in a Pass/ Fail Course
W	Non-factorable	Withdraw

Other Notes:

1. All Students, including Tuition Fee-Exempt Students, who have discontinued their enrollment are assessed a QAR 2,000 re-admission fee for each occurrence of re-admission.
2. In the event of a successful appeal of an Academic Dismissal for exceeding the maximum normal Program enrollment duration, all Students, with the exception of Tuition Fee-Exempt Students, are charged Tuition Fees for their remaining period of study.
3. After enrollment, Qatari Students can transfer an academic program only once before being assessed Tuition Fees upon the second transfer.

Tuition and Fees

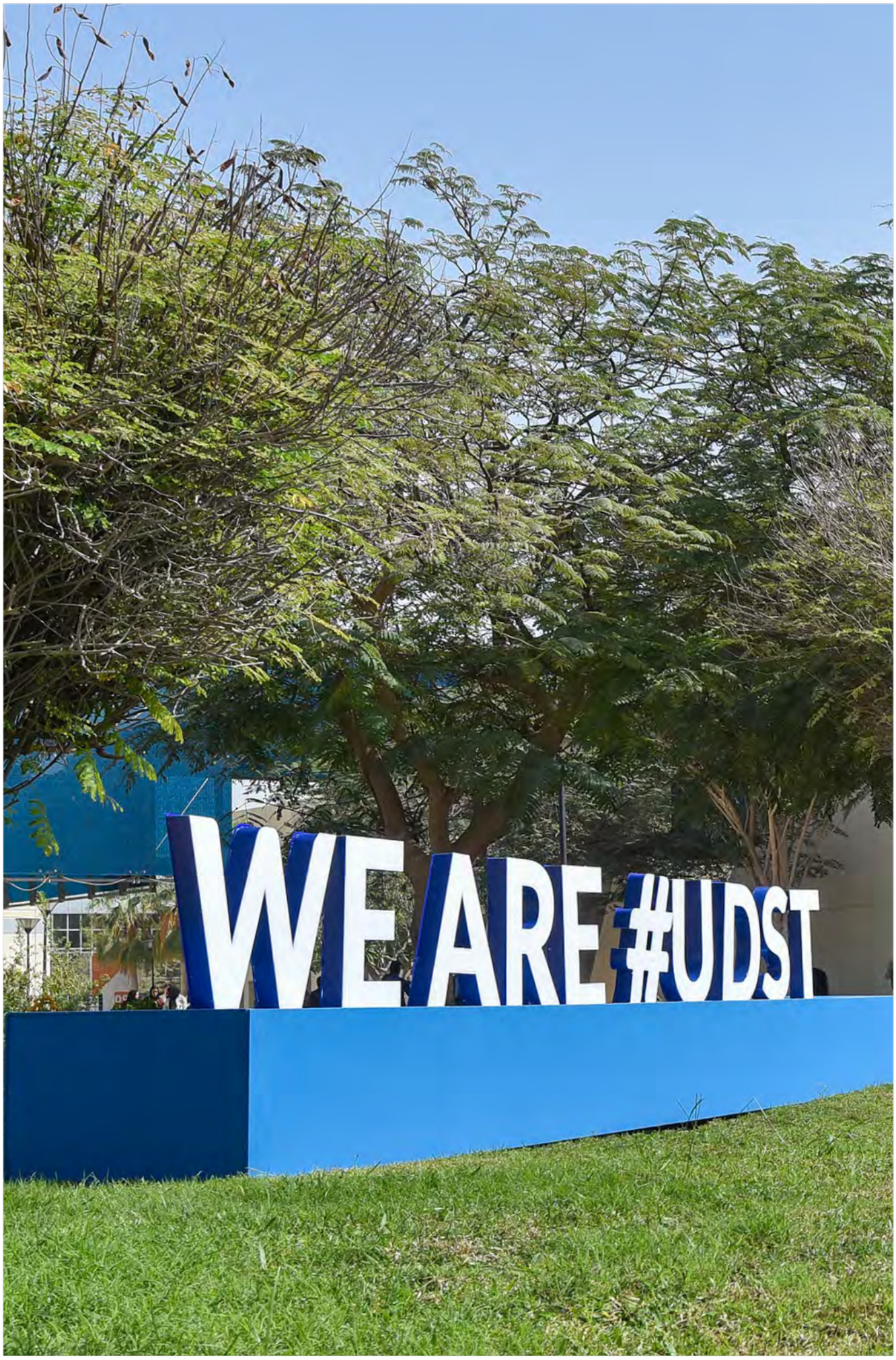
Payment of Fees:

1. Fees for the current semester are due no later than the end of the semester.
2. If the fees are not paid by the end of the semester, the student will be allowed to register in the following semester under the condition that they pay 80% of the outstanding fees by the end of the Add/Drop period.
3. If the student fails to do so, they will be automatically deregistered and will not be able to attend classes.
4. Should the College cancel a program, all fees will be refunded
5. Applications received from sponsors will be processed and the fees will be charged to the sponsor's account. Similarly, sponsored students do not pay tuition fees at the time of registration. The College verifies sponsorship at the time of registration and collects the tuition fee from the sponsor
6. Receipts are issued for all financial transactions with the College. Students should ensure that they obtain and save these receipts for use in resolving financial conflicts. In the absence of such documentation, the College financial records will provide the basis for decisions.
7. Textbooks:
   - 7.1 Students are responsible for obtaining all required textbooks and/or reference material for each course in their program. Textbooks can be purchased from the UDST Bookstore.
   - 7.2 Costs for textbooks vary per course.
   - 7.3 Textbooks Refunds: Refunds will be given for returned textbooks under the following conditions:
     - 7.3.1 Books are returned within three weeks after the first day of classes
     - 7.3.2 Books are unmarked and in saleable condition
     - 7.3.3 Original receipts are presented when the refund is requested.

Tuition and Fees

Administrative Fee Structure - Effective Fall 2022 Student Services		
Service	**Description**	**Administrative Fee**
Admission application fee	Per Application	QAR 300 (including Placement Test)
Re-Admission fee	Per Re-Admission	QAR 2,000
Retaking Placement Test	-	QAR 200
Late Registration fee penalty	Per Semester	QAR 350
Additional copies of official Transcript	-	QAR 30*
Student Card	First card	QAR 0
Student Card	Replacement card	QAR 100
Student Locker	Locker	QAR 105
Student Locker	Lost Locker Key	QAR 15
Gym membership	-	QAR 0
Swimming pool entry	-	QAR 0
Housing	Undergraduate	QAR 2,750 per month
Housing	Graduate	QAR 2,750 per month
Photocopy	Description	Administrative Fee
Binding 1-49	Unit	QAR 2
Binding 50-199	Unit	QAR 3
Binding 200-500	Unit	QAR 5
Copy A4 B&W 1 Side	Page	QAR 0.10
Copy A4 B&W 2 Sides	Page	QAR 0.15
Copy A3 B&W 1 Side	Page	QAR 0.30
Copy A3 B&W 2 Sides	Page	QAR 0.45
Copy A4 Color 1 Side	Page	QAR 1.00
Copy A4 Color 2 Sides	Page	QAR 1.50
Copy A3 Color 1 Side	Page	QAR 1.20
Copy A3 Color 2 Sides	Page	QAR 2.00
A4 Lamination	Unit	QAR 1.50
A3 Lamination	Unit	QAR 3.00
Print A4 B&W 1 Side	Page	QAR 0.10
Print A4 B&W 2 Sides	Page	QAR 0.15
Print A3 B&W 1 Side	Page	QAR 0.30
Print A3 B&W 2 Sides	Page	QAR 0.45
Print A4 Color 1 Side	Page	QAR 1.00
Print A4 Color 2 Sides	Page	QAR 1.50
Print A3 Color 1 Side	Page	QAR 1.50
Print A3 Color 2 Sides	Page	QAR 2.00
Scanning Charge	Page	QAR 0.10

*The first official transcript upon graduation is free.


WE ARE #UDST

CPE

التعليم المستمر والمهني

Continuing & Professional Education

Relevant, Value-Added, Innovative Training and Development Solutions

The Continuing and Professional Education (CPE) Directorate at UDST provides affordable and accessible professional education, training and certification, contributing to the socio-economic development of Qatar with an aim to become the center of choice in the State for continuing and professional education.

The key focuses of CPE are:

Ensuring high-quality training.
Strategically expanding its reach.
Establishing itself as a center known for excellence.
Cultivating an effective workforce.
Engaging with the community.

In addition to UDST's Core Values, CPE emphasizes:

Client-Centric Approach
Professionalism
Market Responsiveness
Adaptability
Focus on Return on Investment

Furthermore, CPE delivers top-notch training to local clients through its network of international educational providers. Our wide range of internationally recognized or accredited courses and programs include:

- AMA Certified Professional in Management (AMA-CPM™)
- Chartered Institute of Personnel Development (CIPD Qualifications in partnership with Bradfield Learning & Development
- CISCO Networking Academy Programs
- CPR and First Aid certifications including: Advanced Cardiovascular Life Support (ACLS), Basic Life support (BLS), Heartsaver First Aid CPR AED and Pediatric Advanced Life Support (PALS)
- Microsoft Learn for Educators (MSLE) Programs
- NEBOSH Certifications
- Petroskills Oil & Gas Training

In addition to the above, our in-house training programs are led by UDST's experienced faculty members. A snapshot of our diversified technical and professional training solutions include:

Engineering

- Centrifugal Compressors
- Centrifugal Pump Maintenance
- Control Valves and Actuators
- Control Valves and Positioners
- Coupling and Shaft Alignment Techniques
- Defect Assessment for Pipelines
- Direct Current (DC) Motor Maintenance
- Distributed Control System Fundamentals (Process)
- Engineering Leadership
- Ethics and Environmental Awareness
- Fundamentals of Oil & Gas
- Hazardous Area Training
- Heat Exchanger Overhaul and Testing Techniques
- Instrumentation & Distributed Control System Fundamentals
- Pneumatics and Hydraulics
- Pressure Relief Safety Valves
- Process Safety Awareness
- Pumps - Positive Displacement
- Quality Assurance in Mechanical Engineering
- Renewable Energy

Business and Management

- Anti Money Laundering (AML)
- Budgeting and Cost Control
- Certified Management Accountant (CMA)
- Chartered financial Analyst (CFA)
- Climate Finance
- Corporate Finance
- Executive Assistant Program
- Finance for Non-Finance
- Financial Modeling using Excel
- Financial Risk Management
- HR Functions
- Interpreting and Analyzing financial Statements
- Investment Analysis
- Islamic Banking
- Marketing and Digital Marketing
- Strategic Financial Decision Making
- Sustainable Green Finance

CPE
التعليم المستمر والمهني
Continuing & Professional Education

Information Technology

- Advanced MS Excel
- Artificial Intelligence for Industrial Applications
- Digital Leadership
- Emerging Technologies and Applications
- Internet of Things
- Introduction to Cybersecurity
- IP Network Security
- Machine Learning & Predictive Analysis
- Microsoft Power BI End User
- Quantum Computing
- Robotic Process Automation
- Routing & Switching
- Telecommunication Networks

Health Sciences

- Basics of Health, Safety and Environment in Process Industries
- Certified CPR and First Aid Training
- Diabetes and Mental Health
- Diet Management for Cancer Prevention
- Fundamentals of Diabetes Education
- Infection Control
- Introductions to Environmental Health
- Medical Radiology
- Medical Safety for the Elderly
- Medical Terminology
- Mental Health
- Occupational Health & Safety
- Principles of Management of Health & Wellbeing at Work
- Research for Medical Practitioners
- Useful Formulas and Functions in Excel

Language Skills

- Academic IELTS Preparation
- Business Communication and Presentation Skills
- Business English (3 levels)
- Business Report Writing
- General English (4 levels)
- Meeting Agendas and Minutes

In addition to the above, our team of experts at UDST are available to provide customized, off-the-shelf, face-to-face, and blended learning solutions that meet our clients' unique needs.

Consulting Services

UDST provides a variety of consulting services catering to businesses, industries, government bodies, and non-profit organizations that are interested in independent expertise.

Our consultants, drawn from UDST's five Colleges, are renowned for their research that directly applies to various real-world contexts. Working closely with clients, our consultants offer academic insights that assist organizations in problem-solving and improving their operational capacities. Additionally, our newly inaugurated Central Analysis Lab, provides an array of testing solutions, including chromatography, elemental and molecular spectroscopy, and materials testing for construction. Tailored analysis requests are accommodated, adhering to rigorous protocols and international standards like ASTM, ISO, and EPA.

Our academic professionals specialize in both conventional and specialized domains, including (but not limited to) :

- Oil & Gas
- Engineering Technology
- Strategic Management
- Operations Management
- Process Improvement
- Financial Advisory
- Human Resources
- Information Technology
- Health Services and Management

For more information about our services or to customize your training and development solutions, contact us at:

Phone: +974 4495 2111
WhatsApp: +974 3304 2840
Email: cpe@udst.edu.qa
or visit **udst.edu.qa/cpe**

Foundation Program Unit (FPU)

The Foundation Program Unit delivers high quality, technologically enhanced, preparatory programs that enable students to be successful in academic programs at UDST. The mission of the Foundation Program is to instill the fundamental knowledge, skills, and attitudes necessary to prepare learners for UDST academic programs.

Three unique programs are offered through the academic unit. The Foundation Program is designed to provide secondary school graduates with English language and/or mathematics skills required to succeed in the Colleges of Business, Engineering and Technology, or Computing and Information Technology. The Technician Certificate Foundation Program is an industry-driven program designed to provide English and math training for students entering the Technician Certificate program. The Foundation Year in Health Sciences is a bespoke program consisting of English, math, and science courses which equip students with the necessary competences to enter the College of Health Sciences.

The Foundation Program and the Technician Certificate Foundation Program are accredited by the Commission on English Language Program Accreditation (CEA).
www.cea-accredit.org

Accredited by CEA®

البرنامج التأسيسي
Foundation Program

جامعة الدوحة للعلوم والتكنولوجيا
UNIVERSITY OF DOHA FOR SCIENCE & TECHNOLOGY

Foundation Program (FP)

Program Description:

The Foundation Program is a one-year preparatory program designed to help students to meet the English and math entrance requirements for their discipline program of choice.

Students only enroll in the necessary preparatory English and math courses according to the UDST placement test scores. Depending on their test scores, students may finish the Foundation Program in as little as one semester.

Students may also be eligible to enroll in discipline program-related credit-bearing courses in the final semester of their Foundation Program pending course availability and overall number of contact hours.

Program Duration:

Up to one year

Accreditation:

The Foundation English Language Program at UDST is accredited by the Commission on English Language Program Accreditation (CEA), for the period August 2016 through August 2026, and UDST agrees to uphold the CEA Standards for English Language Programs and Institutions. CEA is a rigorous credential, recognized by the U.S. Secretary of Education as a nationally recognized accrediting agency for English language programs and institutions in the U.S.

For further information about this accreditation, please contact CEA, 1001 North Fairfax Street, Suite 630, Alexandria, VA 22314, (703) 665-3400. www.cea-accredit.org

Accredited by CEA®

Program Objectives:

Dependent on individual student need, during their Foundation Program (FP) students may be required to complete one or more of the following:

PO01. Listen and respond to listening tasks up to seven minutes long about targeted academic topics

PO02. Read and respond to texts about targeted academic topics up to 750 words

PO03. Give a seven-minute presentation on a targeted academic topic

PO04. Write targeted academic essays of up to 300 words

PO05. Solve, analyze and apply linear equations

PO06. Use graphing techniques, right angle trigonometry, and algebraic manipulations

Foundation Program (FP)

Admission Requirements:

Admissions to the Foundation Program is based on an applicant's future College program. Applicants must meet the basic program requirements for admissions for entry to the Foundation Program.

Admission to the Foundation Program is competitive and applicants should strive to complete both the University English and Math Placement Tests to the best of their ability.

Study Plan:

The following is a sample study plan indicating all English and math requirements. Students who test at a higher level may be exempt from some of the courses, thereby shortening the length of the study plan.

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1						
FENG1000	English Fundamentals	Min Score on AEP	-	0	20	0
SEMESTER 2						
FENG1001	English I	FENG1000 OR Min Score on AEP	-	0	12	6
FMAT1000	Preparatory Mathematics	-	FENG1001 OR Min Score on AEP	0	6	0
SEMESTER 3						
FENG1002	English II	FENG1001 OR Min Score on AEP	-	0	12	6

* Students in the final semester may be eligible to enroll into select CGE electives pending number of contact hours and availability.

English Courses:

Dependent on English Placement test scores, students requiring preparatory English courses may enroll in the following English language courses:

COURSE NUMBER	COURSE TITLE	CEFR DESCRIPTOR	CEFR RANGE	OOPT RANGE
FENG1000	English Fundamentals	Basic User – Waystage Plus	A2 – A2.2	35 - 48
FENG1001	English I	Independent User - Threshold	B1.1 – B1	49 - 56
FENG1002	English II	Independent User – Threshold Plus	B1 – B1.2	57 - 64

Future Pathways:

Upon successful completion of the Foundation Program, students are eligible to enroll in the Colleges of Business, Engineering and Technology, or Computing and Information Technology.

Program Webpage:

Click Here

Foundation Year in Health Sciences (FY HS)

Program Description:

The Foundation Year in Health Sciences (FY HS) is a competitive one-year program that prepares graduates with the necessary knowledge and skills to progress into an English-medium higher education institution and embark on a degree in the College of Health Sciences. Through the program, students gain fundamental knowledge and competencies in English, math, and sciences before being introduced to specialized courses tailored to link with future studies in Health Sciences. Through experiential, communicative learning, students engage in motivating tasks where they interact with concepts to ensure their comprehension and develop the relevant skills. The program curriculum provides content for each area, consistent with the student outcomes and program educational objectives, to ensure that students are prepared to enter the College of Health Sciences.

Program Duration:

One year

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with the following:
   a. English Language with a minimum grade of 60%
   b. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
   c. One of the following three Sciences: Biology, Chemistry, or Physics with a minimum grade of 60%

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Foundation Year in Health Sciences (FY HS)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Foundation Year in Health Sciences (FY HS) program, graduates will be able to:

PEO01. Apply knowledge, techniques, and skills to learning activities in academic settings
PEO02. Communicate and collaborate successfully individually and within a team in an academic setting
PEO03. Consider ethical and social implications related to academic studies
PEO04. Apply principles of continuous learning to adapt to new academic challenges

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Foundation Year in Health Sciences (FY HS) program, graduates will be prepared to:

SLO01. Demonstrate University-level oral, written, and graphical communication skills in the English language
SLO02. Demonstrate competency in fundamental mathematics knowledge and skills
SLO03. Demonstrate competency in fundamental natural science knowledge and skills
SLO04. Apply learning strategies to learn new knowledge, and skills in a variety of academic situations, including lecture, lab, and discipline-specific contexts
SLO05. Demonstrate critical thinking skills in a variety of academic situations
SLO06. Demonstrate professionalism through student success strategies such as lecture and lab attentiveness, time management skills, including class preparation, and timely submission of assignments

Foundation Year in Health Sciences (FY HS)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	FENG1002	English II	FENG1001 OR Min Score on AEP	-	0	12	6
	HMAT1000	Mathematics for Health Sciences	Min Score on AMP	FENG1002 OR Min Score on AEP	0	3	2
				Semester 1 Total:	**0**	**15**	**8**
SEMESTER 2	ACAD1000	Academic Reading & Writing	FENG1002 OR Min Score on AEP	-	4	3	3
	HMED1000	Medical Terminology	-	ACAD1000	0	3	0
	FCHE1000	Fundamentals of Chemistry for Health Sciences	-	-	0	3	2
	FBIO1000	Biology Fundamentals for Health Sciences	-	-	0	3	3
				Semester 2 Total:	**4**	**12**	**8**
SEMESTER 3	FBIO1001	Fundamentals of Human Anatomy & Physiology	FBIO1000	-	0	3	3
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 3 Total:	**3**	**6**	**3**
				Year 1 Total:	**7**	**33**	**19**
				FY HS Program Total:	**7**	**33**	**19**

* Selected CGE electives for students in the final semester pending number of course hours and availability.

Future Pathways:

Graduates of the Foundation Year in Health Sciences (FY HS) program may choose to continue their education by applying for any of the specialized Diploma or Bachelor programs within the College of Health Sciences.

Program Webpage:

Click Here

Career Opportunities:

The Foundation Year in Health Sciences (FY HS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Occupational Health, Safety and Environment Officer
- Pharmacy Technician
- Paramedic
- Respiratory Therapist
- Medical Technologist
- Dental Hygienist
- Health Inspection Officer
- Practical Nurse

Technician Certificate Foundation Program (TCFP)

Program Description:

The Technician Certificate Foundation Program is designed to help trainees meet and complete the language and math requirements of the Technician Certificate Program of choice. The Technician Certificate Program integrates English language and mathematics training simultaneously with technical courses to further develop students' literacy and numeracy skills.

Program Duration:

Up to one and a half years

Accreditation:

The Technician Certificate Foundation English Language Program at UDST is accredited by the Commission on English Language Program Accreditation (CEA), for the period August 2016 through August 2026, and UDST agrees to uphold the CEA Standards for English Language Programs and Institutions. CEA is a rigorous credential, recognized by the U.S. Secretary of Education as a nationally recognized accrediting agency for English language programs and institutions in the U.S.

For further information about this accreditation, please contact CEA, 1001 North Fairfax Street, Suite 630, Alexandria, VA 22314, (703) 665-3400. www.cea-accredit.org

Accredited by CEA®

Program Objectives:

Dependent on individual student need, during the Technician Certificate Foundation Program (TCFP) students be able to:

PO01. Listen and respond to monologues or dialogues up to four (4) minutes long, about a less familiar topic
PO02. Read texts written in a variety of formats about less familiar topics up to 500 words
PO03. Give a four-minute presentation on a factual or less familiar topics
PO04. Write a cause-and-effect paragraph and an email up to 150 words about a professional or academic topic
PO05. Perform calculations that involve two-step equations, ratios and proportions, exponents and polynomials

Technician Certificate Foundation Program (TCFP)

Admission Requirements:

High School or Academic Requirement:
1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%.
English Language Requirement:
1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate.
Mathematics Requirement:
1. Completion of the University Math Placement Test.
Additional Admission Criteria:
1. Sponsored by an oil and gas industry partner.

Please contact the Admissions and Registration Directorate for further information.

Study Plan:

The following is a sample study plan indicating all English and math requirements. Students who test at a higher level may be exempt from some of the courses, thereby shortening the length of the study plan.

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1010	Foundation English I	Min Score on AEP	FTEN1011	0	225	0
FTEN1011	Conversational English I	Min Score on AEP	FTEN1010	0	150	0
SEMESTER 2 (15 WEEKS)*						
FTEN1020	Foundation English II	FTEN1010 & FTEN1011 OR Min Score on AEP	FTEN1021	0	225	0
FTEN1021	Conversational English II	FTEN1010 & FTEN1011 OR Min Score on AEP	FTEN1020	0	150	0
Proceed to Technician Certificate Program						
SEMESTER 3 (15 WEEKS)						
FTEN1100	General English I	FTEN1020 & FTEN1021 OR Min Score on AEP	-	0	255	60
FTMA1100	Technician Mathematics I	-	-	0	75	0
Various	Technical Courses	-	-	-	-	
SEMESTER 4 (15 WEEKS)						
FTEN1200	General English II	FTEN1100	-	0	150	60
FTMA1200	Technician Mathematics II	FTMA1100	-	0	75	0
Various	Technical Courses	-	-	-	-	-

* FTEN1020/FTEN1021 are offered only in Fall/Winter semesters. This course is substituted with FTEN1022 in Spring semesters.

Technician Certificate Foundation Program (TCFP)

English Courses:

Dependent on test scores, students requiring preparatory English courses may enroll in the following English language courses:

COURSE NUMBER	COURSE TITLE	CEFR DESCRIPTOR	*CEFR RANGE	*OOPT RANGE
FTEN1010	Foundation English I	Basic User – Breakthrough	A1	8 - 19
FTEN1011	Conversational English I	Basic User – Breakthrough	A1	8 - 19
FTEN1020	Foundation English II	Basic User – Waystage	A2	20 - 35
FTEN1021	Conversational English II	Basic User – Waystage	A2	20 - 35
FTEN1100	General English I	Independent User - Threshold	B1.1	36 - 64
FTEN1200	General English II	Independent User – Threshold Plus	B1 – B1.2	-

Future Pathways:

Upon successful completion of their Technician Certificate Foundation Program courses students are eligible to enroll in UDST Technician Certificate Programs.

Program Webpage:

Click Here

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College of General Education (CGE)

Introduction:

The College of General Education (CGE) fulfils a very important role in the academic journey of all students at the University: it is the home of their first-year experience, irrespective of their chosen program of study. The courses students take with CGE form an integral part of their academic program and are referred to as a General Education Requirement. The purpose of this requirement is to introduce all University students to a wide range of common subjects which form the basis of theoretical and applied knowledge acquisition in Mathematics, the Sciences, English Communication, Research Methods, and the Social Sciences and Humanities.

Students will develop essential study skills through courses in experiential learning, learn about research and analysis, have the opportunity to select specific courses focusing on global awareness and regional challenges, and practice their critical thinking and problem-solving skills in a supportive group environment.

The CGE faculty come from many parts of the world, each bringing valuable expertise in their scientific domain, as well as a passionate dedication to student success.

Course Introduction:

CGE provides a range of common General Education courses, grouped into six thematic clusters:

- English Communication;
- Experiential Learning;
- Global Awareness and Regional Challenges;
- Mathematics and Natural Sciences;
- Research Methods and Quantitative Analysis; and
- Social Sciences, Humanities and the Arts.

Dependent on individual program requirements, each student is required to take a specific number of General Education courses.

General Education courses introduce students to mathematics, general science, biology, chemistry and physics, research methods and analysis, as well as the interdisciplinary nature of modern science and its applications. With a focus on the first-year experience of university education, General Education courses assist students to acquire essential experiential learning skills along with a firm grounding in written and oral English communication, emphasizing critical thinking and problem-solving skills. Selected courses in the sciences, social sciences, humanities and the arts will provide students with the opportunity to become more aware of global and regional challenges and to explore the wider social implications of an increasingly diverse and interconnected world while developing the principles of personal and social responsibility necessary for thriving and advancing their intellectual and practical skills.

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College of General Education (CGE)

College of General Education Cluster Courses:

A sample of course offerings under each cluster include:

English Communication (ELCO) Course Cluster

COURSE NUMBER	COURSE TITLE
COMM1010	English Communication I
COMM1020	English Communication II

Effective and Experiential Learning (EFEL) Course Cluster

COURSE NUMBER	COURSE TITLE
EFFL1001	Effective Learning
EFFL1002	Applied & Experiential Learning

Global Awareness and Regional Challenges (GARC) Course Cluster

COURSE NUMBER	COURSE TITLE
ECON1001	Global Economic Concepts
GARC1001	Qatar History & Society
GARC2001	Human Development in Qatar
GARC2002	Globalization & Environment
AECH2103	Leadership & Management Principles
AECH2112	Sustainability & Renewable Energy

Mathematics and Natural Sciences (MANS) Course Cluster

COURSE NUMBER	COURSE TITLE
BIOL1001	Inquiry-Based Biology
BIOL1002	Introduction to Botany
BIOL1003	Fundamentals of Ecology
BIOL1030	Biochemistry & Microbiology
BIOL1031	Biochemistry & Microbiology (Lab)
BIOL1110	Anatomy & Physiology I
BIOL1210	Anatomy & Physiology II
BIOL2010	Microbiology
BIOL2011	Microbiology (Lab)
CHEM1010	General Chemistry I
CHEM1011	General Chemistry I (Lab)
CHEM1020	General Chemistry II
CHEM1021	General Chemistry II (Lab)
CHEM1030	Health Sciences Chemistry
CHEM1031	Health Sciences Chemistry (Lab)
CHEM1040	Applied Science
CHEM1041	Applied Science (Lab)
CHEM3010	Petrochemistry
CHEM3011	Petrochemistry (Lab)
COMP1401	Introduction to Computers & Information Systems
INFT2102	Mathematics for IT
MATH1010	Algebra & Trigonometry
MATH1020	Pre-Calculus
MATH1030	Calculus I
MATH1040	Statistics
MATH1050	Linear Algebra
MATH1060	Numerical Problem Solving
MATH1070	Applied Mathematics
MATH2002	Quantitative Design & Statistics
MATH2010	Calculus II
PHYS1020	General Physics
PHYS1021	General Physics (Lab)
PHYS1030	Health Sciences Physics
PHYS1031	Health Sciences Physics (Lab)
SCIE1001	Science & its Applications
SCIE1002	Science & the Environment

Research Methods and Quantitative Analysis (RMQA) Course Cluster

COURSE NUMBER	COURSE TITLE
COMM3010	Research & Reporting
RSST1001	Qualitative Designs & Analyses
RSST3001	Research & Statistics
RSST3002	Probability & Statistical Analysis

College of General Education (CGE)

Social Sciences, Humanities, and the Arts (SSHA) Course Cluster

COURSE NUMBER	COURSE TITLE
SSHA1001	Islamic & Arab Civilization
SSHA1002	Introduction to Sociology
SSHA1003	Introductory Psychology
SSHA1004	Ethical Reasoning
SSHA1005	Law & Society
SSHA1006	Introduction to the Arts
AECH1100	Environmental Awareness & Ethics
BUSG2001	Introduction to Entrepreneurship
BUSG2002	Project Management
HSHG2080	Ethics in Healthcare

College of General Education (CGE) Webpage:
Click Here

Postgraduate Diploma in STEM/TVET Education (PG Dip. STE)

Program Description:

The Postgraduate Diploma in STEM/TVET Education (PG Dip. STE) is a one-year program designed for bachelor's degree graduates of UDST and graduates of other higher education institutions, industry professionals, and qualified professional educators, who are interested in the practical applications of STEM/TVET education and technologies including a variety of advanced education technologies. In QNQF terms, this is equivalent to the Graduate Studies Diploma – Level 8.

The program will enable both fresh graduates and professionals from different applied occupations to gain knowledge, skills and competencies to work as Educators/Trainers/Lab Instructors/ Experiential Learning Facilitators in education environments utilizing STEM/TVET curricula, IB, AP and A-Level curricula, industrial training settings, and specialized laboratory facilities requiring highly skilled technology operators. Further, the degree will serve the employee training needs in a variety of industries utilizing advanced STEM/TVET technology applications.

Graduates of the Postgraduate Diploma in STEM/TVET Education possess advanced knowledge and understanding of educational approaches and practical training that will enable them to teach or facilitate learning sessions/Labs in specialized STEM/TVET areas such as Computer Science, Computer Programming, Electronics and Telecommunications, Engineering Education, Environment and Occupational Safety, General Mechanics, Health Sciences Education, ICT Education, Industrial Operations, Instrumentation Technology, Integrated Sciences, and Safety and Security. The program further prepares its graduates to understand and adapt to the rapidly changing educational and technological landscape through creative exploration, practical application, and innovation in areas of teaching practice, knowledge transfer and innovative solutions to education industry needs.

Program Duration:

One year

Admission Requirements:

High School or Academic Requirement:

1. Bachelor's Degree obtained from UDST in any applied occupational field; OR
2. Bachelor's Degree obtained from an accredited higher education institution in any applied occupational field; OR
3. Bachelor's Degree in Education obtained from an accredited higher education institution.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) Internet Based Test (iBT) score of 72.

Note: Graduates of UDST are exempted from the language requirement.

Additional Admission Criteria:

1. Applicants from other academic fields may apply if they have a minimum of three years of experience in industry or in their specific professional field. Working professionals are required to provide a certificate from their employer providing confirmation of approval to enroll in this program.

Postgraduate Diploma in STEM/TVET Education (PG Dip. STE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Postgraduate Diploma in STEM/TVET Education (PG Dip. STE) program, graduates will be able to:

PEO01. Demonstrate advanced knowledge and detailed understanding of the field of STEM/TVET Education
PEO02. Apply a comprehensive range of pedagogical solutions to the implementation and teaching of advanced STEM/TVET technologies
PEO03. Demonstrate innovative application of STEM/TVET learning systems and tools aligned to industry practice
PEO04. Demonstrate ability to undertake reflective research on knowledge transfer for continuous improvement of practice
PEO05. Accomplish independent tasks related to the application of theory in STEM/TVET curriculum design and experiential learning performance tasks or assessments

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Postgraduate Diploma in STEM/TVET Education (PG Dip. STE) program, graduates will be prepared to:

SLO01. Design and facilitate integrated STEM/TVET learning sessions in secondary schools or industry training settings
SLO02. Apply relevant STEM/TVET technology and experiential learning approaches to educational settings
SLO03. Enrich educational practice through integrative approaches to teaching and learning in technology-enhanced and multimedia settings
SLO04. Effectively use a wide range of experiential pedagogical practices and authentic assessments
SLO05. Utilize research skills in information gathering, data analysis, and planning for future teaching practices
SLO06. Communicate confidently and proficiently

Postgraduate Diploma in STEM/TVET Education (PG Dip. STE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM5010	Teaching STEM/TVET to EAL Students	-	-	3	3	0
	EDUC5010	STEM/TVET Pedagogies	-	-	3	3	0
	EDUC5020	Curriculum & Instruction in a Technology-Enhanced Context	-	-	3	3	0
	EDUC5030	Assessing Experiential Learning	-		3	3	0
				Semester 1 Total:	**12**	**12**	**0**
SEMESTER 2	EDUC5040	Reflective Practice in Teaching Education	EDUC5010	-	3	3	0
	EDUC5050	Learning & Training with Technology Labs	EDUC5020	-	3	3	0
	EDUC5060	Foundations of TVET & Workforce Development	-	-	3	3	0
	EDUC5070	Innovation in STEM/TVET Education	-	-	3	3	0
				Semester 2 Total:	**12**	**12**	**0**
SEMESTER 3	EDPR5010	Teaching Practicum	EDUC5040 EDUC5050	-	6	200 Total HRs	
				Semester 3 Total:	**6**	**0**	**0**
				Year 1 Total:	**30**	**24**	**0**
				PG Dip. STE Program Total:	**30**	**24**	**0**

Graduate Future Pathways:

Graduates of the Postgraduate Diploma in STEM/TVET Education (PG Dip. STE) program may choose to continue their education in a Master's program or conduct research.

Graduate Career Opportunities:

The Postgraduate Diploma in STEM/TVET Education (PG Dip. STE) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- STEM Teacher
- Lab Assistant
- Information and Communications Technology Teacher
- Design Technology Teacher
- Corporate Training and Development Manager
- Educational Technology Trainer
- Learning Management System Trainer

Program Webpage:

Click Here

College of Business (CB)

The College of Business (CB) is a leading business school in the region, offering Diploma, Bachelor and Master's programs across six (6) areas: Accounting and Finance, Banking and Financial Technology, Healthcare Management, Human Resource Management, Logistics and Supply Chain Management, and Digital Marketing and Entrepreneurship. Each business program is aligned with relevant professional associations which may lead to the award of professional certification. All programs are developed in close collaboration with senior business managers. Programs are designed to assure that knowledge, skills, and competencies are developed in alignment with industry and State needs and trending global business developments.

CB faculty draw on a range of direct industry and research experience in the development and delivery of their classes. Courses are taught in an applied experiential manner that fully engages students in their learning. All Undergraduate programs also include a required Work Placement, providing students with hands-on, in-field, work experience. To enhance the applied nature of our programs, the College operates an in-house trading room and financial lab workspace in cooperation with LSEG Refinitiv, with a live feed from the Qatar Stock Exchange. This on-site Financial Centre is designed to promote an understanding of how the local economy is interconnected with the global economy and provides an opportunity for students to interact with emerging financial technologies. In addition, the College has two Student Help Centers and a Simulation room with high fidelity recording facilities where students can practice their interview and presentation skills.

As well as providing foundational business knowledge, CB programs also develop students' innovation and entrepreneurial skills, providing them with the competencies to initiate and run their own enterprises. To further support entrepreneurship, UDST students can access the UHUB, which provides resources to support individuals engaging in new business ventures.

CB graduates are highly employable, having developed the key skills and competencies desired by employers across business fields.

We look forward to welcoming you to our College and the start of your career in business.

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Diploma Programs

Diploma in Accounting (Dip. Acc)

Program Description:

The Diploma in Accounting (Dip. Acc) is a two-year program that prepares graduates with the knowledge, skills, and competencies to start a career as a professional accountant. In the Dip. Acc program students are introduced to accounting practices, accounting technologies, fundamental business concepts, and soft skills. Students engage in hands-on experiential learning through applied activities and the use of accounting technologies.

Program Duration:

Two years

Accreditation:

The Diploma in Accounting (Dip. Acc) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education.

For more information on UDST's ACBSP accreditation, please visit www.acbsp.org.

ACBSP
GLOBAL BUSINESS ACCREDITATION

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with a minimum score of 480; OR
3. Successful completion of Foundation Progra requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Accounting (Dip. Acc)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Accounting (Dip. Acc) program, graduates will be able to:

PEO01. Possess knowledge and skills in applied accounting, and practice general business analytical skills to prepare financial and managerial reports
PEO02. Meet requirements for a professional accounting body
PEO03. Effectively operate in the common business domains such as finance, management, and marketing
PEO04. Possess the personal and cognitive skills required to be effective in business including effective communication, efficient teamwork, entrepreneurship, and other soft skills such as time management, supervision and leadership management
PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Accounting (Dip. Acc) program, graduates will be prepared to:

SLO01. Explain accounting concepts and techniques used in business environments
SLO02. Demonstrate skill in preparing financial statements according to international standards by using financial information, accounting tools and techniques
SLO03. Develop preliminary budgets and business plans using accounting principles, concepts, tools and techniques
SLO04. Identify major trends in accounting that impact business operations
SLO05. Develop as an accounting professional in the areas of communication, team building, creativity, and ethical/ legal functioning

Diploma in Accounting (Dip. Acc)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
				Semester 1 Total:	12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT1001	Principles of Marketing	-	-	3	2	3
	Mathematics & Natural Sciences Elective		-	-	3	3	0
				Semester 2 Total:	12	10	6
SEMESTER 3	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
				Semester 3 Total:	3	2	3
				Year 1 Total:	27	23	12

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	ACCT2003	Intermediate Financial Accounting I	ACCT1001	-	3	2	3
	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	ECON2010	Business Economics	-	-	3	2	3
				Semester 4 Total:	15	10	15
SEMESTER 5	ACCT2005	Intermediate Financial Accounting II	ACCT2003	-	3	2	3
	ACCT3001	Advanced Costing & Managerial Accounting	ACCT2001	-	3	2	3
	ACCT3005	Accounting Information Systems	ACCT2003	-	3	2	3
	ACCT3007	Financial Reporting & Analysis	ACCT2003	-	3	2	3
	ACCT3009	Financial Modelling	ACCT2003	-	3	2	3
				Semester 5 Total:	15	10	15
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	
				Semester 6 Total:	9	0	0
				Year 2 Total:	39	20	30
				Dip. Acc Program Total:	66	43	42

Diploma in Accounting (Dip. Acc)

Graduate Future Pathways:

Graduates of the Diploma in Accounting (Dip. Acc) may choose to continue their studies and complete the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc), or Bachelor of Business Administration in Banking and Fintech (B.B.A. BkFinTech) degree program.

Graduate Career Opportunities:

The Diploma in Accounting (Dip. Acc) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Payroll Officer
- Assistant Comptroller
- Junior Auditor
- Credit Analyst
- Taxation Officer
- Financial Officer

Program Webpage:

Click Here

Diploma in Healthcare Management (Dip. HCM)

Program Description:

The Diploma in Healthcare Management (Dip. HCM) is a two-year program that prepares graduates with the knowledge, skills and competencies needed for an entry level position in the field of Healthcare Management (HCM). After completing the Dip. HCM program, graduates will possess a practical and theoretical overview of the functions of managing business activities in a healthcare setting. Students engage in hands-on experiential learning through applied assignments and a required HCM work placement.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Healthcare Management (Dip. HCM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Healthcare Management (Dip. HCM) program, graduates will be able to:

PEO01. Analyze operational performance of healthcare entities within a healthcare delivery system
PEO02. Apply knowledge and skills focused on the specific occupation of healthcare administration
PEO03. Use analytical skills in effective decision-making and generating solutions to problems in healthcare settings
PEO04. Function effectively in the business-related domains of a healthcare entity such as: managing it's finances, managing and protecting healthcare data, marketing its services, and risk management
PEO05. Make use of personal and cognitive skills to be effective in the administration of healthcare systems including communication, teamwork, and other soft skills such as: time management and employee relations
PEO06. Apply ethical principles in the conduct of a healthcare entity's business and demonstrate responsibility to society and to the profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Healthcare Management (Dip. HCM) program, graduates will be prepared to:

SLO01. Compare the practical aspects of different business functions related to a healthcare entity in Qatar
SLO02. Apply knowledge of different business skills, tools, and technologies to the healthcare entity, including: financial management, business ethics, laws and policies, employee relations, management of healthcare data, performance management, and information systems
SLO03. Analyze best practices in healthcare contexts for effective and efficient solutions to business challenges
SLO04. Influence decision-making using a variety of communication formats in culturally diverse healthcare systems
SLO05. Apply ethical principles to different situations within the domain of healthcare administration

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	ACCT1001	Financial Accounting	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
	HCMT1001	Introduction to Healthcare Management	-	-	3	2	3
				Semester 2 Total:	**12**	**9**	**9**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	HCMT2001	Healthcare Operations Management	HCMT1001	-	3	2	2
				Semester 3 Total:	**6**	**4**	**5**
				Year 1 Total:	**30**	**24**	**17**

Diploma in Healthcare Management (Dip. HCM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	BUSG2010	Qatar Business Law	-	-	3	2	3
	BUSG2002	Project Management	-	-	3	2	2
	HRMG2020	Employee Relations	-	-	3	2	3
	HCMT3001	Health Policy	HCMT2001	-	3	2	2
	HCMT3002	Healthcare Information Governance	HCMT2001	-	3	2	2
				Semester 4 Total:	**15**	**10**	**12**
SEMESTER 5	HCMT3003	Healthcare Quality Management	HCMT2001	-	3	2	2
	HCMT3004	Health Economics	ECON2010 HCMT2001	-	3	2	2
	HCMT3005	Healthcare Informatics	HCMT2001	-	3	2	2
	HCMT3006	Healthcare Risk Management	HCMT2001	-	3	2	2
				Semester 5 Total:	**12**	**8**	**8**
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	
				Semester 6 Total:	**9**	**0**	**0**
				Year 2 Total:	**36**	**18**	**20**
				Dip. HCM Program Total:	**66**	**42**	**37**

Graduate Future Pathways:

Graduates of the Diploma in Healthcare Management (Dip. HCM) may choose to continue their studies and complete the Bachelor of Science in Healthcare Management (B.Sc. HCM) degree program.

Graduate Career Opportunities:

The Diploma in Healthcare Management (Dip. HCM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Healthcare Services Assistant
- Healthcare Office Administrator
- Medical Records Assistant
- Outpatient Care Coordinator
- Public Health Assistant
- Customer Care Representative

Program Webpage:

Click Here

Diploma in Human Resource Management (Dip. HRM)

Program Description:

The Diploma in Human Resource Management (Dip. HRM) is a two-year program that prepares graduates with the knowledge, skills and competencies needed for an entry level position in the field of Human Resource Management (HRM). After completing the Dip. HRM program, graduates will possess a practical and theoretical overview of human resources functions, and its critical role in organizations. Students engage in hands-on experiential learning through applied assignments and a required HRM work placement.

Program Duration:

Two years

Accreditation:

The Diploma in Human Resource Management (Dip. HRM) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education. For more information on UDST's ACBSP accreditation, please visit www.acbsp.org

ACBSP
GLOBAL BUSINESS ACCREDITATION

Admission Requirements:

High School or Academic Requirement:
1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.
English Language Requirement:
1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR 2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR 3. Successful completion of Foundation Program requirements.
Mathematics Requirement:
1. A minimum of 60% on the University Math Placement Test; OR 2. A valid SAT Report Form with minimum score of 480; OR 3. Successful completion of Foundation Program requirements.
Additional Admission Criteria:
1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Human Resource Management (Dip. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Human Resource Management (Dip. HRM) program, graduates will be able to:

PEO01. Apply knowledge of HR functions in supporting the organization goals
PEO02. Interpret HR data for effective decision making
PEO03. Diagnose the HR challenges and provide innovative solutions
PEO04. Identify HR personnel needs to implement and achieve operational goals
PEO05. Demonstrate ethical behavior in managing human capital and organizational resources
PEO06. Develop HR plans related to, recruitment, selection, performance management, training and development and employee compensation

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Human Resource Management (Dip. HRM) program, graduates will be prepared to:

SLO01. Discuss the role and purpose of human resource functions in organizations
SLO02. Diagnose current practices, trends, and challenges in human resource management
SLO03. Apply HR skills and competencies to attract, retain and develop talent
SLO04. Develop employee performance initiatives and compensation plans aligned with organizational goals
SLO05. Demonstrate responsible and ethical behavior as a human resource professional

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	MATH1070	Applied Mathematics	-	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
				Semester 2 Total:	**12**	**9**	**9**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
				Semester 3 Total:	**6**	**4**	**6**
				Year 1 Total:	**30**	**24**	**18**

Diploma in Human Resource Management (Dip. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	HRMG2020	Employee Relations	-	-	3	2	3
	HRMG3010	Human Resource Planning & Selection	HRMG1001	-	3	2	2
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
				Semester 4 Total:	12	8	11
SEMESTER 5	HRMG3020	Qatar Employment Law	-	-	3	2	2
	HRMG3030	Occupational Health & Safety	HRMG1001	-	3	2	2
	HRMG3040	Performance Management	HRMG3010	-	3	2	2
	HRMG3050	Training & Development	HRMG1001	-	3	2	2
	HRMG4020	Compensation & Benefits	HRMG1001	-	3	2	2
				Semester 5 Total:	15	10	10
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	
				Semester 6 Total:	9	0	0
				Year 2 Total:	36	18	21
				Dip. HRM Program Total:	66	42	39

Graduate Future Pathways:

Graduates of the Diploma in Human Resource Management (Dip. HRM) may choose to continue their studies and complete the Bachelor of Human Resource Management (B.B.A. HRM) degree program.

Graduate Career Opportunities:

The Diploma in Human Resource Management (Dip. HRM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Benefits Clerk
- Recruitment Assistant
- Training Coordinator
- Onboarding Coordinator
- Compensation Clerk
- Professional Development Assistant

Program Webpage:

Click Here

Diploma in Marketing (Dip. Mktg)

Program Description:

The Diploma in Marketing (Dip. Mktg) is a two year program that prepares graduates with the knowledge, skills and competencies needed for a career in marketing. After completing this hands-on diploma program, graduates will possess a foundation in marketing platforms, tools, and techniques. They will be well positioned to create content and assist with the development and execution of marketing campaigns and strategy. Students engage in hands-on experiential learning through applied assignments and a required work placement.

Program Duration:

Two years

Accreditation:

The Diploma in Marketing (Dip. Mktg) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education. For more information on UDST's ACBSP accreditation, please visit www.acbsp.org

ACBSP
GLOBAL BUSINESS ACCREDITATION

Admission Requirements:

High School or Academic Requirement:
1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.
English Language Requirement:
1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR 2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR 3. Successful completion of Foundation Program requirements.
Mathematics Requirement:
1. A minimum of 60% on the University Math Placement Test; OR 2. A valid SAT Report Form with minimum score of 480; OR 3. Successful completion of Foundation Program requirements.
Additional Admission Criteria:
1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Marketing (Dip. Mktg)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Marketing (Dip. Mktg) program, graduates will be able to:

PEO01. Demonstrate knowledge and competence in the specific occupation of digital marketing, and in general business administration
PEO02. Make use of communication and interpersonal skills to be effective team workers and to contribute to the development of the enterprise
PEO03. Demonstrate ethics in business and responsibility to their society and profession
PEO04. Show commitment to continuous professional development in digital marketing, and interest in obtaining further qualifications

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Marketing (Dip. Mktg) program, graduates will be prepared to:

SLO01. Apply digital marketing concepts and techniques in business environments
SLO02. Contrast digital tactics including; search engine optimization, social media, videos, email, blogging, websites, influencers etc. to assist in product promotion and sales
SLO03. Apply business principles including; budget reconciliation, pricing, law and economics
SLO04. Demonstrate marketing analytical knowledge to interpret major trends in sales and marketing
SLO05. Summarize ethical principles within the domain of digital marketing

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	MRKT1001	Principles of Marketing	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
	ACCT1001	Financial Accounting	-	-	3	2	3
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
				Semester 2 Total:	**12**	**9**	**9**
SEMESTER 3	RSST3001	Research & Statistics	COMM1020	-	3	3	0
	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**25**	**15**

Diploma in Marketing (Dip. Mktg)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MRKT2002	Marketing Research	RSST3001	-	3	2	3
	MRKT3008	Digital Marketing Communications	MRKT2003	-	3	2	3
	MRKT3104	Consumer Behavior in the Digital Age	MRKT1001	-	3	2	2
				Semester 4 Total:	**15**	**10**	**14**
SEMESTER 5	MRKT3007	Professional Selling	MRKT1001	-	3	2	2
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	MRKT3009	Marketing Analytics & Data Mining	MRKT2003	-	3	2	3
	MRKT3011	Branding in the Digital Age	MRKT2003	-	3	2	2
				Semester 5 Total:	**12**	**8**	**10**
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	
				Semester 6 Total:	**9**	**0**	**0**
				Year 2 Total:	**36**	**18**	**24**
				Dip. Mktg Program Total:	**66**	**43**	**39**

Graduate Future Pathways:

Graduates of the Diploma in Marketing (Dip. Mktg) may choose to continue their studies and complete the Bachelor of Digital Marketing (B.B.A. DMktg) degree program.

Graduate Career Opportunities:

The Diploma in Marketing (Dip. Mktg) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Assistant Account Manager
- Advertising Assistant
- Assistant Product Manager
- Customer Service Representative
- Digital Content Coordinator
- Social Media Assistant

Program Webpage:

Click Here

Bachelor Programs

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Program Description:

The Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) degree is a four-year program which provides graduates with the knowledge skills and competencies to succeed in the dynamic field of business and accountancy. Program courses focus on developing a strong foundation in technical accounting and business competencies, as well as on developing the soft skills necessary to succeed in the field of accounting. Students will combine accounting fundamentals and the application of accounting technologies in the recording, management and reporting of financial information, and so will be positioned to actively contribute to the economic growth, social development and environmental management requirements of Qatar National Vision 2030. The approach to teaching in the program is experiential and integrative including hands-on and cross disciplinary, technology enabled projects. The program also includes an on-the-job work placement, allowing students to gain in-field work experience, with a specific focus on accountancy. In the final year, students will demonstrate the breadth and depth of their skills and knowledge in a Applied Accounting capstone project.

Program Duration:

Four years

Accreditation:

The Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) program is a member of the CFA Institute University Affiliation Program (CFA UAP). The UDST B.B.A. AAcc program curriculum is closely tied to the CFA Program Candidate Body of Knowledge™ (CBOK) and prepares students with knowledge required to sit CFA® Program exams. For more information please visit: www.cfainstitute.org

CFA Institute
University Affiliation Program

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Accounting Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) program, graduates will be able to:

PEO01. Possess extensive knowledge and skills focused in a specific occupation of applied accounting, and be practicing general business analytical skills to inform strategic decision making
PEO02. Achieve chartered membership in one or more professional accounting bodies and conform with the association's requirements for professional development and best practice
PEO03. Effectively perform in the common business domains such as finance, management, leadership, marketing, and information systems
PEO04. Possess the personal and cognitive skills required to be effective in business including; effective communication, efficient teamwork, entrepreneurship, and other soft skills, such as time management, supervision and leadership management
PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) program, graduates will be prepared to:

SLO01. Apply accounting concepts and techniques in business environments
SLO02. Utilize financial information and accounting tools, techniques and standards to prepare financial statements according to international standards
SLO03. Use accounting principles, concepts, tools and techniques for budgeting, business planning, decision-making, and financial performance evaluation
SLO04. Apply analytical and computational knowledge and skills in accounting to determine major trends in business
SLO05. Select financial management principles, tools, and techniques to analyze various issues related to financial performance, investment, and financing

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
				Semester 1 Total:	12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT1001	Principles of Marketing	-	-	3	2	3
	Mathematics & Natural Science Elective				3	3	0
				Semester 2 Total:	12	10	6
SEMESTER 3	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Social Science, Humanities & the Arts Elective: Select 1 of 2						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1004	Ethical Reasoning	-	-	3	3	0
				Semester 3 Total:	6	5	3
				Year 1 Total:	30	25	12

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ACCT2003	Intermediate Financial Accounting I	ACCT1001	-	3	2	3
	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3
	ECON2010	Business Economics	-	-	3	2	3
	MATH1060	Numerical Problem Solving	-	-	3	3	1
				Semester 4 Total:	12	9	10
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	ACCT2005	Intermediate Financial Accounting II	ACCT2003	-	3	2	3
	BKFT3007	Principles of Corporate Finance	BKFT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	3	0
				Semester 5 Total:	15	11	12
SEMESTER 6	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4 (*1 of the 2 GARC Electives must be ECON1001)						
	ECON1001	Global Economic Concepts*	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 6 Total:	6	5	3
				Year 2 Total:	**33**	**25**	**25**

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	ACCT3001	Advanced Costing & Managerial Accounting	ACCT2001	-	3	2	3
	ACCT3005	Accounting Information Systems	ACCT2003	-	3	2	3
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	Social Science, Humanities & the Arts Elective: Select 1 of 2						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1004	Ethical Reasoning	-	-	3	3	0
				Semester 7 Total:	**12**	**9**	**6**
SEMESTER 8	ACCT3007	Financial Reporting & Analysis	ACCT2003	-	3	2	3
	ACCT3009	Financial Modelling	ACCT2003	-	3	2	3
	BKFT3001	Financial Risk Management	Min 60 Credits	-	3	3	0
	BKFT3005	Strategic Financial Decision Making	BKFT1001	-	3	2	3
	RSST3001	Research & Statistics	COMM1020	-	3	3	0
				Semester 8 Total:	**15**	**12**	**9**
SEMESTER 9	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4 (*1 of the 2 GARC Electives must be ECON1001)						
	ECON1001	Global Economic Concepts*	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	**6**	**6**	**0**
				Year 3 Total:	**33**	**27**	**15**

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	ACCT3010	Planning, Budgeting, & Forecasting	ACCT3001	-	3	2	3
	ACCT4001	Auditing & Assurance Services	ACCT2005	-	3	3	0
	ACCT4005	Contemporary Topics in Accounting	ACCT2003	-	3	3	0
	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
				Semester 10 Total:	**12**	**9**	**9**
SEMESTER 11	ACCT4007	Advanced Financial Accounting	ACCT3007	-	3	2	3
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
				Semester 11 Total:	**9**	**6**	**9**
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**30**	**15**	**18**
				B.B.A. AAcc Program Total:	**126**	**92**	**70**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) may choose to continue their studies and complete the Master of Science in Accounting and Finance (M.Sc. AccFin) degree program or pursue further specializations in their field.

Graduate Career Opportunities:

The Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Accounts Receivable Administrator
- Credit Analyst
- Internal Auditor
- Investor Relations Assistant
- Business Analyst
- Loan Officer

Program Webpage:

Click Here

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Program Description:

The Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) is an applied business degree with a major focus on Banking and Financial Technology (FinTech). Banking is a sought-after career within Qatar and the region, and the digital financial services industry is growing rapidly worldwide. This program introduces students to the fundamentals of the Banking and FinTech industries, including the information technology areas critical to both. Students will engage in hands-on practice in the application of Banking and FinTech concepts and strategies along with general business principles and practice. The program includes an on-the-job Banking and/or FinTech work placement, allowing students to gain in-field work experience. In the final year, students demonstrate the breadth and depth of their skills and knowledge in an applied Banking and FinTech capstone project.

Program Duration:

Four years

Accreditation:

The Bachelor of Business Administration in Banking and FinTech (B.B.A. BkFinTech) program is a member of the CFA Institute University Affiliation Program (CFA UAP). The UDST B.B.A. FkFinTech program curriculum is closely tied to the CFA Program Candidate Body of Knowledge™ (CBOK) and prepares students with knowledge required to sit CFA® Program exams. For more information please visit: www.cfainstitute.org

CFA Institute
University Affiliation Program

Admission Requirements:

High School or Academic Requirement:
1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR 2. Two-year Accounting Diploma or equivalent approved by the Ministry of Education and Higher Education.
English Language Requirement:
1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR 2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR 3. Successful completion of Foundation Program requirements.
Mathematics Requirement:
1. A minimum of 60% on the University Math Placement Test; OR 2. A valid SAT Report Form with minimum score of 480; OR 3. Successful completion of Foundation Program requirements.
Additional Admission Criteria:
1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) program, graduates will be able to:

PE001. Demonstrate expertise in dealing with contemporary banking and FinTech operations, systems and issues
PE002. Function effectively with colleagues, industry professionals and government entities to creatively, ethically and competently influence the banking and FinTech landscape
PE003. Recommend strategic solutions to banking and FinTech concerns and act as a member of the leadership team to implement these solutions
PE004. Engage with continuous professional development and lifelong learning to remain current both in the Banking and FinTech field as well as in the business and social environment
PE005. Function as a mid-level manager in the Banking industry or as an entrepreneur, contributing to the development of strategies and policies
PE006. Rule on banking and ethical matters in consultation with the national regulatory bodies of Qatar's banking and FinTech industry

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) program, graduates will be prepared to:

SLO01. Contrast the functions, roles and products of banks and financial intermediaries, both within Qatar and internationally
SLO02. Analyze the value of high-yielding functions, products and services along the delivery value chain of performance and profitability
SLO03. Demonstrate fluency in Data Science programs/models such as Python, R, Blockchain, AI etc. and be able to recommend technological solutions to such problems as imperfect or asymmetric data
SLO04. Interpret data to predict manage, and influence the behaviors of customers and identify trends and opportunities in banking and investment services
SLO05. Interpret the rights, duties and compliance requirements of financial intermediaries and their customers and apply ethical principals in unregulated areas
SLO06. Model high levels of customer service, communication, etiquette, initiative and creativity

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
				Semester 1 Total:	12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
				Semester 2 Total:	12	9	9
SEMESTER 3	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	Social Science, Humanities & the Arts Elective: Select 1 of 2						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1004	Ethical Reasoning	-	-	3	3	0
				Semester 3 Total:	6	5	3
				Year 1 Total:	**30**	**25**	**15**

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3
	BKFT2001	Banking & Financial Institutions	BKFT1001	-	3	3	0
	ECON2010	Business Economics	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
				Semester 4 Total:	12	9	9
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	MATH1060	Numerical Problem Solving	-	-	3	3	1
	MISY2010	Management Information Systems	-	-	3	3	0
				Semester 5 Total:	16	13	10
SEMESTER 6	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 2						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
				Semester 6 Total:	6	5	3
				Year 2 Total:	34	27	22

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	BKFT3005	Strategic Financial Decision Making	BKFT1001	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	Social Science, Humanities & the Arts Elective: Select 1 of 2						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1004	Ethical Reasoning	-	-	3	3	0
				Semester 7 Total:	12	9	6
SEMESTER 8	BKFT3007	Principles of Corporate Finance	BKFT1001	-	3	2	3
	BKFT3010	Personal Finance & Wealth Planning	BKFT1001	-	3	3	0
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	RSST3001	Research & Statistics	COMM1020	-	3	3	0
				Semester 8 Total:	15	13	6
SEMESTER 9	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 2						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
				Semester 9 Total:	6	6	0
				Year 3 Total:	**33**	**28**	**12**

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	DACS3202	Cyber Security Analytics & Visualization	DSAI2201	-	3	2	3
	BKFT4001	Financial Innovation in Markets & Technologies	BKFT2001	-	3	3	0
	BKFT4020	Investment Analysis	BKFT3007	-	3	2	3
				Semester 10 Total:	**12**	**8**	**12**
SEMESTER 11	BKFT4010	Portfolio Management	BKFT3007	-	3	2	3
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	Elective: Select 1 of 2						
	BKFT4015	Derivatives & Risk	BKFT3005	-	3	3	0
	BKFT3001	Financial Risk Management	Min 60 Credits	-	3	3	0
				Semester 11 Total:	**9**	**6**	**9**
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**30**	**14**	**21**
				B.B.A. BkFinTech Program Total:	**127**	**94**	**70**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) may choose to continue their studies and complete the Master of Science in Accounting and Finance (M.Sc. AccFin) degree program or pursue further specializations in their field.

Graduate Career Opportunities:

The Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Assistant Trader
- Financial Analyst
- FinTech Advisor
- Data Analyst
- Investor Relations Assistant
- Compliance Officer

Program Webpage:

Click Here

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Program Description:

The Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) is a four year program which prepares graduates for a professional career in digital marketing (DMktg). In this program students develop a comprehensive understanding of DMktg concepts in areas such as: advertising persuasion, consumer behavior, user experience design, analytics, SEO and integrated media strategies. Through experiential learning, students work in multi-disciplined teams in courses such as analyzing business cases, and strategic management. The program includes a practical on-the-job DM work placement, which allows students to gain dynamic in-field work experience. In the final year of the program, students demonstrate the breadth and depth of their skills and knowledge through an applied DMktg capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Marketing Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) program, graduates will be able to:

PEO01. Make use of comprehensive knowledge and competence in the specific occupation of digital marketing, and in general business administration
PEO02. Choose membership of one or more Marketing Professional Associations and conform with its requirements for professional development
PEO03. Function in common business activities such as; finance, management, leadership, strategy, marketing and digital systems
PEO04. Make use of personal and cognitive skills to be effective; communicators, team workers, entrepreneurs, and leaders
PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) program, graduates will be prepared to:

SLO01. Apply digital marketing concepts and techniques in business environments
SLO02. Utilize tactics including; search engine optimization, social media, videos, email, blogging, websites, influencers etc. to develop the organizations brand, market reach and resulting revenues
SLO03. Use business principles to develop effective budgets, business plans, make decisions, and evaluate performance
SLO04. Apply marketing analytical knowledge and skills to determine major trends in consumerism or within specific markets
SLO05. Apply extensive occupational knowledge relating to specific commercial areas to contribute to the development of strategic and marketing plans
SLO06. Assess ethical principles within the domain of digital marketing

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	MRKT1001	Principles of Marketing	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HRMG1001	Principles of HRM	-	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
				Semester 2 Total:	**12**	**10**	**6**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**26**	**12**

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	3	0
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
				Semester 4 Total:	**12**	**9**	**9**
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	RSST3001	Research & Statistics	COMM1020	-	3	3	0
	MRKT3104	Consumer Behavior in the Digital Age	MRKT1001	-	3	2	2
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 8						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	BUSG2002	Project Management	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 5 Total:	**12**	**10**	**5**
SEMESTER 6	MRKT3006	Services Marketing	MRKT1001	-	3	2	2
	BUSG2010	Qatar Business Law	-	-	3	2	3
				Semester 6 Total:	**6**	**4**	**5**
				Year 2 Total:	**30**	**23**	**19**

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	MRKT2002	Marketing Research	RSST3001	-	3	2	3
	MRKT3008	Digital Marketing Communications	MRKT2003	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**10**	**6**
SEMESTER 8	MRKT3007	Professional Selling	MRKT1001	-	3	2	2
	MRKT3009	Marketing Analytics & Data Mining	MRKT2003	-	3	2	3
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 8						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	BUSG2002	Project Management	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 8 Total:	**12**	**9**	**8**
SEMESTER 9	MRKT3010	Digital Optimization	MRKT2003	-	8	2	3
	MRKT3011	Branding in the Digital Age	MRKT2003	-	3	2	2
				Semester 9 Total:	**6**	**4**	**5**
				Year 3 Total:	**30**	**23**	**19**

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	MRKT4214	Digital Marketing Strategy	MRKT2003	-	3	2	2
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 10 Total:	**12**	**9**	**8**
SEMESTER 11	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
	MRKT4112	Advanced Topics in Digital Marketing	MRKT2002 MRKT2003	-	3	2	2
	MRKT4213	Sales Management	MRKT3007 MRKT2003	-	3	2	2
				Semester 11 Total:	**12**	**8**	**10**
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total	9	0	0
				Year 4 Total:	**33**	**17**	**18**
				B.B.A. DMktg Program Total:	**123**	**89**	**68**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

Graduate Career Opportunities:

The Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Content Coordinator
- Search Engine Optimization (SEO) Specialist
- Social Media Coordinator
- Digital Marketing Assistant
- Junior Marketing Associate

Program Webpage:

Click Here

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Program Description:

The Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) is a four-year program which prepares graduates to embark on a professional career path in health care and related professions. In this program, students develop a comprehensive understanding of general business and healthcare specific issues and concepts to improve the administration of patient care. In the program, students engage in experiential learning and work in multi-disciplinary teams analyzing business cases. The program also includes a practical on-the-job healthcare management work placement, which allows students to gain dynamic in-field work experience. In the final year of the program, students demonstrate the breadth and depth of their skills and knowledge through an applied healthcare management capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Healthcare Management Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) program, graduates will be able to:

PEO01. Contrast leadership, operational and strategic performance within Qatar's healthcare delivery system
PEO02: Apply knowledge and skills focused on the specific occupation of healthcare management
PEO03. Demonstrate the use of analytical skills in effective decision making and generating solutions to problems in healthcare environments
PEO04. Function effectively in the business-related domains of the healthcare ecosystem such as; governance, strategic planning, finance, management, leadership, marketing, and information systems
PEO05. Model the personal and cognitive skills required to be effective in the healthcare system including; effective communication, efficient teamwork, entrepreneurship, and other soft skills, such as; time management, supervision, and leadership management
PEO06. Demonstrate the application of ethics in business and responsibility to society and to the profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) program, graduates will be prepared to:

SLO01. Compare the theoretical and practical aspects of the different business functions related to the healthcare system in Qatar
SLO02. Apply business skills, tools, and techniques to the healthcare sector, including financial management, ethics and policies, quality and performance management, and information systems and technologies
SLO03. Analyze best practices in healthcare contexts, to provide sustainable and efficient solutions to business challenges
SLO04. Influence decision-making through effective communications across culturally diverse healthcare systems using different communication methods and formats
SLO05. Evaluate ethical principles within the domain of healthcare management and apply these to different situations

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	ACCT1001	Financial Accounting	-	-	3	2	3
	HCMT1001	Introduction to Healthcare Management	-	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
				Semester 2 Total:	**12**	**10**	**6**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**26**	**12**

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HCMT2001	Healthcare Operations Management	HCMT1001	-	3	2	2
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 4 Total:	12	10	5
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	ECON2010	Business Economics	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
				Semester 5 Total:	12	8	12
SEMESTER 6	RSST3001	Research & Statistics	COMM1020	-	3	3	0
	Social Science, Humanities & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	6	6	0
				Year 2 Total:	**30**	**24**	**17**

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	HCMT3001	Health Policy	HCMT2001	-	3	2	2
	HCMT3002	Healthcare Information Governance	HCMT2001	-	3	2	2
	HCMT3003	Healthcare Quality Management	HCMT2001	-	3	2	2
				Semester 7 Total:	12	9	6
SEMESTER 8	HCMT3004	Health Economics	ECON2010	-	3	2	2
	HRMG2020	Employee Relations	-	-	3	2	3
	HCMT3005	Healthcare Informatics	HCMT2001	-	3	2	2
	HCMT3006	Healthcare Risk Management	HCMT2001	-	3	2	2
				Semester 8 Total:	12	8	9
SEMESTER 9	BUSG2002	Project Management	-	-	3	2	2
	HCMT3007	Research in Healthcare Management	RSST3001	-	3	2	2
				Semester 9 Total:	6	4	4
				Year 3 Total:	30	21	19

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	HCMT4008	Trends in Healthcare	HCMT3003	-	3	2	2
	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society		-	3	3	0
	ECON1001	Global Economic Concepts		-	3	3	0
	GARC2001	Human Development in Qatar		-	3	3	0
	GARC2002	Globalization & Environment		-	3	3	0
				Semester 10 Total:	12	9	8
SEMESTER 11	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
	HCMT4009	Career Planning in Healthcare Management	HCMT2001	-	3	3	0
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
				Semester 11 Total:	12	9	9
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total	9	0	0
				Year 4 Total:	**33**	**18**	**17**
				B.B.A. HCM Program Total:	**123**	**89**	**65**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

Graduate Career Opportunities:

The Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Hospital or Medical Clinic Administrator
- Healthcare Data Analyst
- Health Information Specialist
- Healthcare Service Manager
- Clinic Assistant Manager
- Client Services Consultant

Program Webpage:

Click Here

Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Program Description:

The Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) is a four year program which prepares graduates to embark on a professional career path in human resources (HR) and related professions. Students will gain a comprehensive understanding of HR functions and develop management competencies in areas such as: recruitment and selection, compensation and benefits, organizational development, employee training and development, HR analytics, psychographics, change management, and workforce planning. Students will engage in experiential learning throughout their program and will work in multi-disciplinary teams in most of their HRM specific courses. The program also includes an on-the-job HRM work placement, allowing students to gain in-field business administration work experience, with a specific focus on human resource management (HRM). In the final year, students will demonstrate the breadth and depth of their skills and knowledge in an applied HRM capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Human Resource Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) program, graduates will be able to:

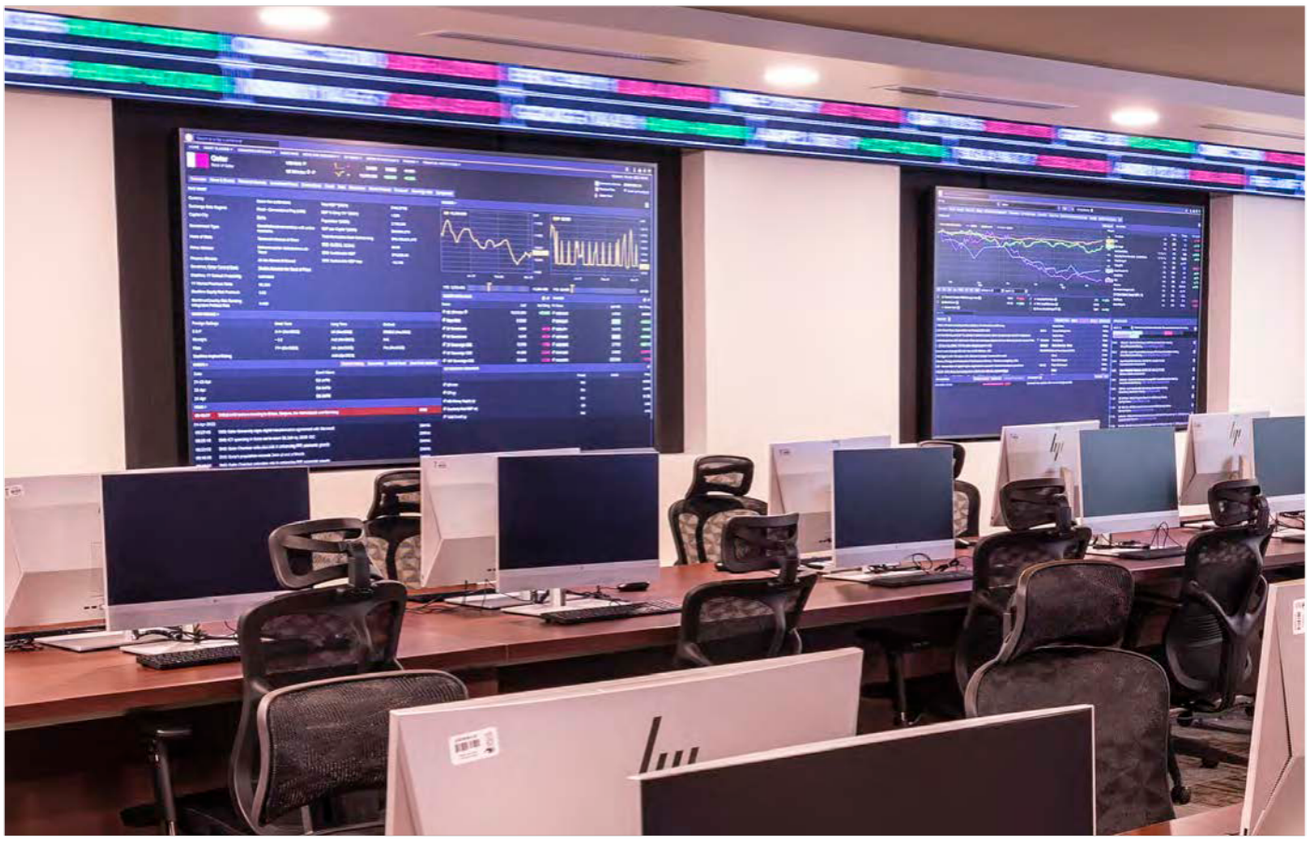
PEO01. Develop HRM business partnerships, acting as a consultant in determining and implementing human resource policies, procedures and practices that contribute to the development of the organization
PEO02. Influence decision makers through highly effective executive presentations and professional communication skills
PEO03. Assess and advise on employment related issues and conflicts with critical awareness of the political, economic, social, ethical and technological factors relating to the organization
PEO04. Prioritize HRM strategies to assist with the development and growth of both individual employees and the organization as a whole
PEO05. Appraise and present HRM data and metrics to guide senior leadership in making informed decisions in relation to strategic HRM and organizational initiatives
PEO06. Function effectively as a team leader, mentoring and coaching junior associates, and assisting employees with their career development and implanting the full life cycle of performance management
PEO07. Take part in professional development to advance knowledge and competence within the human resource professions and to enhance personal career progression

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) program, graduates will be prepared to:

SLO01. Function effectively as an HRM business professional, ethically and systematically practicing and evaluating human resource theory, practices and policies within the enterprise
SLO02. Make use of appropriate business administration, communication and transferable skills to efficiently manage work tasks, contribute to teamwork, and influence others
SLO03. Interpret and collect research and data in order to contribute to organizational transformation through the development and implementation of strategy and the continuous assessment of performance matrices
SLO04. Prioritize the use of available organizational resources based on an assessment of needs and risks and a justifiable interpretation of the scale of benefits
SLO05. Appraise self and organizational performance and formulate action plans to address development areas



Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	MATH1070	Applied Mathematics	-	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
				Semester 2 Total:	**12**	**9**	**9**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**25**	**15**

Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	HRMG2020	Employee Relations	-	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	3	0
	Social Science, Humanities & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 4 Total:	12	10	6
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	RSST3001	Research & Statistics	COMM1020	-	3	3	0
				Semester 5 Total:	12	9	9
SEMESTER 6	BUSG2002	Project Management	-	-	3	2	2
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 6 Total:	6	5	2
				Year 2 Total:	**30**	**24**	**17**

Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HRMG3010	Human Resource Planning & Selection	HRMG1001	-	3	2	2
	HRMG3020	Qatar Employment Law	-	-	3	2	2
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**10**	**4**
SEMESTER 8	HRMG3030	Occupational Health & Safety	HRMG1001	-	3	2	2
	HRMG3040	Performance Management	HRMG3010	-	3	2	2
	HRMG3050	Training & Development	HRMG1001	-	3	2	2
	Elective: Select 1 of 2						
	HRMG4081	Psychology in Human Resource Management	MGMT2010, HRMG3010	-	3	2	2
	HRMG4091	Creativity & Innovation in the Workplace	MGMT2010	-	3	2	2
				Semester 8 Total:	**12**	**8**	**8**
SEMESTER 9	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
				Semester 9 Total:	**6**	**6**	**0**
				Year 3 Total:	**30**	**24**	**12**

Bachelor of Business Administration in Human Resource Management (B.B.A. HRM)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	HRMG4010	International Human Resource Management	HRMG1001 MGMT2010	-	3	2	2
	HRMG4020	Compensation & Benefits	HRMG1001	-	3	2	2
	HRMG4092	Human Resource Analytics	HRMG3040	-	3	2	2
	Elective: Select 1 of 2						
	HRMG4083	Labor Force Engineering	HRMG3010	-	3	2	2
	HRMG4093	Strategic Human Resource Management	HRMG3010		3	2	2
				Semester 10 Total:	**15**	**9**	**14**
SEMESTER 11	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	HRMG4030	Organization Design & Development	MGMT4010	-	3	2	2
	HRMG4040	Artificial Intelligence in Human Resource Management	HRMG3010 MISY2010	-	3	2	2
	Elective: Select 1 of 2						
	HRMG4084	Managing Diversity & Inclusion	MGMT2010	-	3	2	2
	HRMG4094	Quality Practices in Human Resource Management	HRMG3040	-	3	2	2
				Semester 11 Total:	**12**	**7**	**12**
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**36**	**16**	**26**
				B.B.A. HRM Program Total:	**126**	**89**	**70**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

Graduate Career Opportunities:

The Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Training and Development Specialist
- Compensation & Benefits Specialist
- Human Resources (HR) Generalist
- Employee Relations Specialist
- Human Resources (HR) Analytics Specialist
- Recruitment Specialist
- Talent & Acquisition Specialist
- Human Resource Information Systems (HRIS) Specialist
  Benefits Administrator

Program Webpage:

Click Here

Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Program Description:

The Bachelor of Business Administration in Logistics and Supply Chain Management (B.B.A. LSCM) program prepares students to address challenges and build on opportunities available in the dynamic world of global commerce. The comprehensive curriculum in this program integrates theoretical and practical applications, providing students with the skills and insights needed to excel in the intricacies of logistics and supply chain management.

In this program, students develop effective sourcing and procurement strategies through hands-on experiences. They explore cutting edge technologies including predictive analytics and blockchain applications, technologies which have revolutionized supply chain management. This program instills a sense of responsibility, guiding students through international standards and frameworks to make informed and morally sound decisions. Students prepare to assess the risks associated with raw material shortages, climate change, and shifting consumer demands, thus ensuring the resilience and adaptability of supply chains.

This program is more than an academic pursuit, it is a transformative life-long learning experience, shaping students into forward-thinking professionals who are ready to assume the role of a procurement specialist. As such, students develop skills in contract negotiation, optimizing sourcing strategies, acting as supply chain analysts to enhance operational efficiency, and championing eco-friendly practices within supply chain. In addition, this program equips students for roles in transportation and distribution, strategic sourcing, and entrepreneurship in the logistics sector.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Diploma in Logistics and Supply Chain or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Logistics and Supply Chain Management Program (B.B.A. LSCM) program, graduates will be able to:

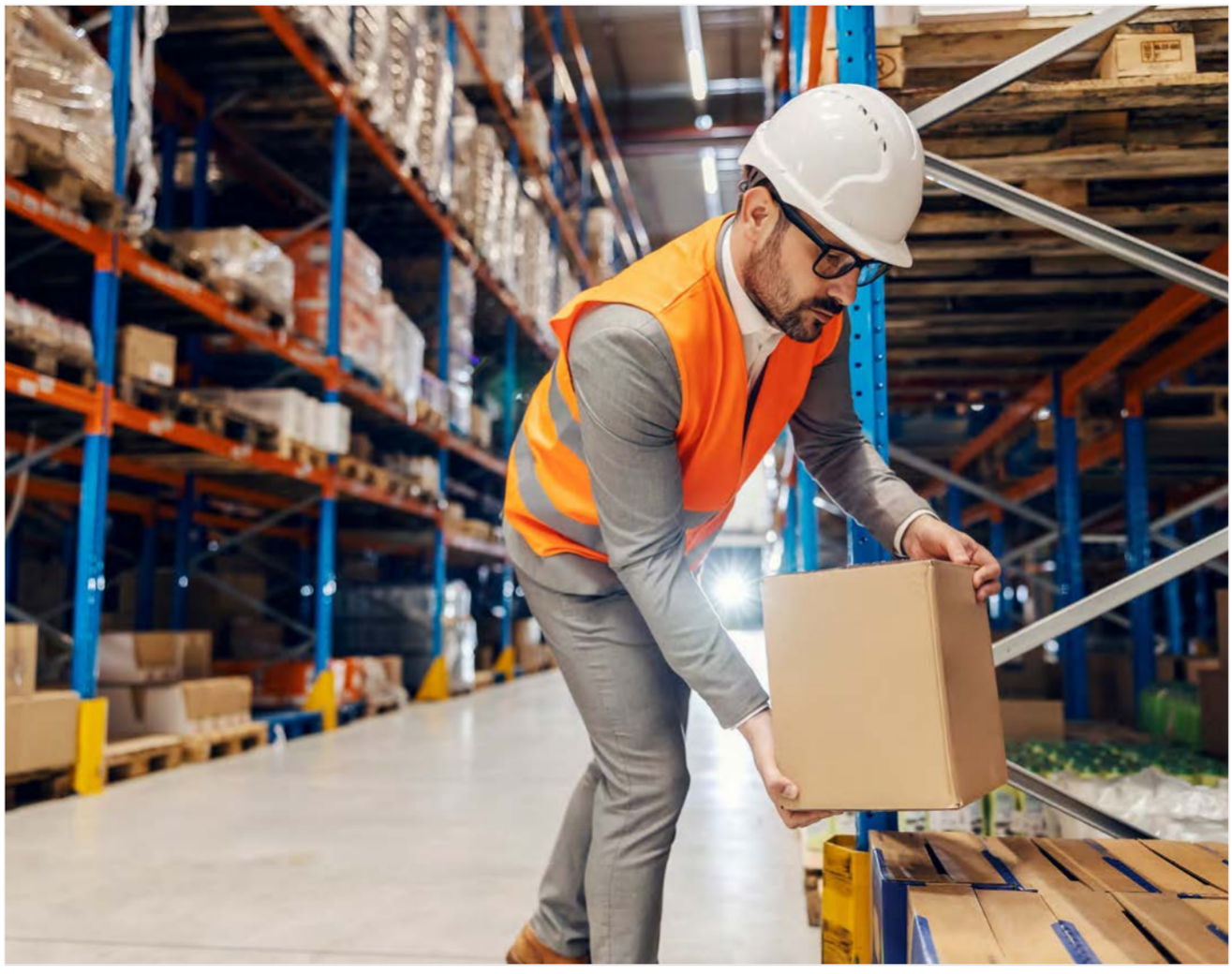
PE001. Apply theories, practices and concepts in the field of logistics and supply chain to address risks associated with consumer demand, raw material shortages, climate change, environmental regulations and cost control measurements
PE002. Evaluate the impact of having effective procurement and supply channels on the organizational efficiency and growth
PE003. Examine sourcing options for strategic supplies of products and services by using modelling and analytical techniques
PE004. Recommend relevant technologies to plan and manage supply chain and distribution channels
PE005. Investigate how globalization, culture, and social practices affect the development of standards to achieve ethical and sustainable supply chain

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the from the Bachelor of Business Administration in Logistics and Supply Chain Management Program (B.B.A. LSCM) program, graduates will be prepared to:

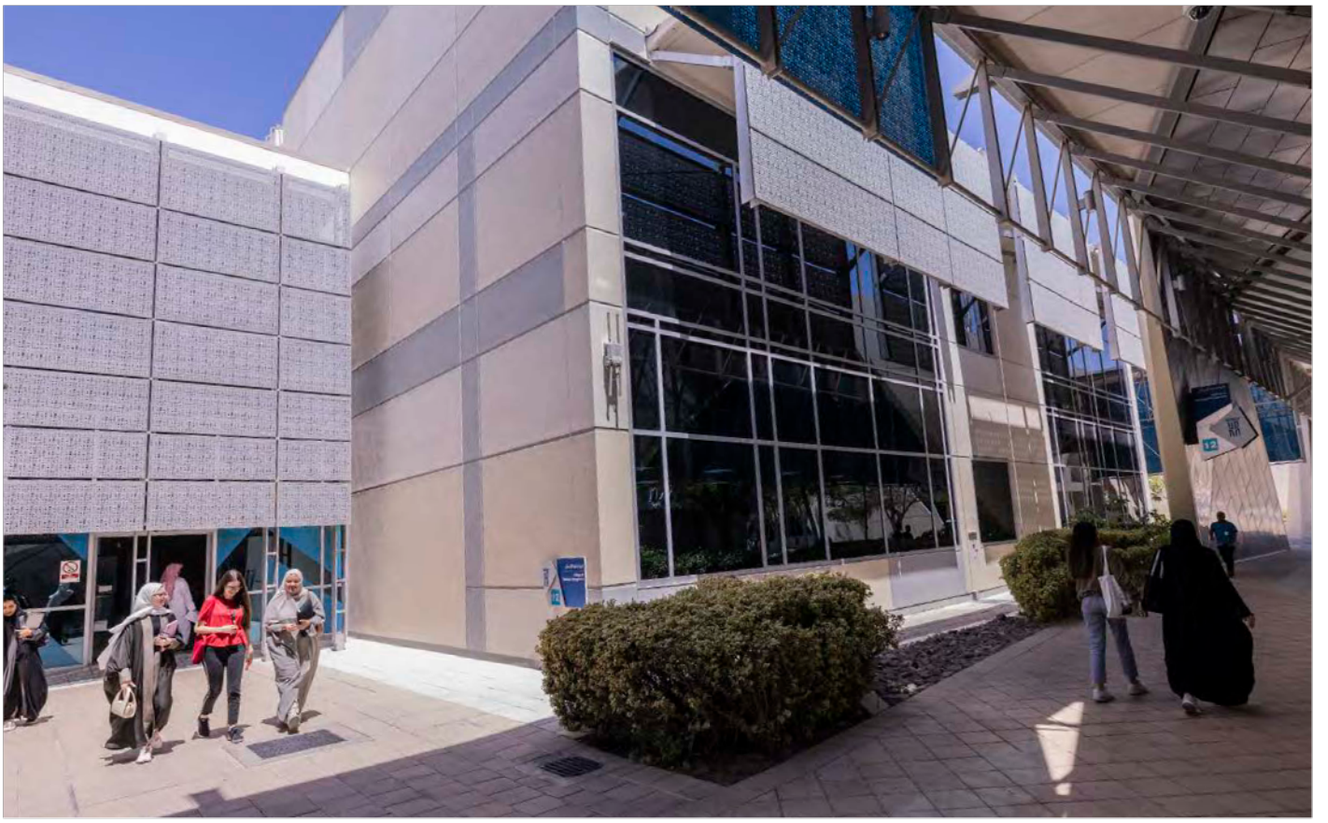
SLO01. Compare approaches to improving logistics and supply chain practices in gaining competitive advantage for an organization
SLO02. Apply strategies to mitigate operational, legal, financial and social risks in logistics and supply chain management
SLO03. Evaluate methods of measuring performance of distribution channels and supply chain
SLO04. Discuss the use of related technologies in integrating transport, warehouse, logistics and supply chain processes and systems
SLO05. Examine the factors impacting ethics and sustainability in logistics and supply chain



Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	LSCM1001	Principles of Logistics & Supply Chain	-	-	3	2	3
	MATH1070	Applied Mathematics	-	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
				Semester 2 Total:	**12**	**9**	**9**
SEMESTER 3	BKFT1001	Principles of Finance	ACCT1001	-	3	2	3
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
				Semester 3 Total:	**6**	**4**	**6**
				Year 1 Total:	**30**	**24**	**18**



Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	LSCM2010	Operations Management	LSCM1001	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	3	0
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 4 Total:	**12**	**10**	**6**
SEMESTER 5	BUSG2010	Qatar Business Law	-	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	RSST3001	Research & Statistics	-	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 5 Total:	**12**	**10**	**6**
SEMESTER 6	BUSG2002	Project Management	-	-	3	2	2
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 6 Total:	**6**	**5**	**2**
				Year 2 Total:	**30**	**25**	**14**

Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	LSCM3010	Supply Chain Planning & Control	LSCM1001 BUSG2002	-	3	2	2
	LSCM3020	Transport & Logistics Management	LSCM1001	-	3	2	2
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**10**	**4**
SEMESTER 8	LSCM3030	Strategic Sourcing & Procurement	LSCM3010	-	3	2	2
	LSCM3040	Legal Environment & Supply Chain Contracts	BUSG2010	-	3	2	2
	LSCM3050	Warehousing & Inventory Management	LSCM2010	-	3	2	2
	LSCM4081	Maritime & Port Management	-	-	3	2	2
				Semester 8 Total:	**12**	**8**	**8**
SEMESTER 9	MGMT4000	Strategic & Sustainable Management	MGMT2010, Min 60 Credits	-	3	3	0
	LSCM4082	Marine Economics & International Trade	ECON2010	-	3	2	2
				Semester 9 Total:	**6**	**5**	**2**
				Year 3 Total:	**30**	**23**	**14**

Bachelor of Business Administration in Logistics and Supply Chain Management (B. B.A. LSCM)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	LSCM4010	Supply Chain Modelling & Analytics	LSCM3010	-	3	2	2
	LSCM4020	Technology Management in Logistics & Supply Chain	MISY2010	-	3	2	2
	LSCM4083	Marine Insurance	-	-	3	2	2
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
				Semester 10 Total:	**15**	**10**	**12**
SEMESTER 11	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	LSCM4030	Data Driven Decision Making	LSCM4010	-	3	2	2
	LSCM4040	Sustainable Practices in Logistics & Supply Chain	LSCM3010 LSCM3030	-	3	2	2
	LSCM4084	Shipbroking & Chartered Vessel Operations	LSCM2010	-	3	2	2
				Semester 11 Total:	**12**	**7**	**12**
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**36**	**17**	**24**
				B.B.A. LSCM Program Total:	**126**	**90**	**70**

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Logistics and Supply Chain Management (B.B.A. LSCM) program may choose to advance their academic career by completing a Post-Graduate diploma in Logistics and Supply Chain Management or a Master's level program in a related field at an accredited university.

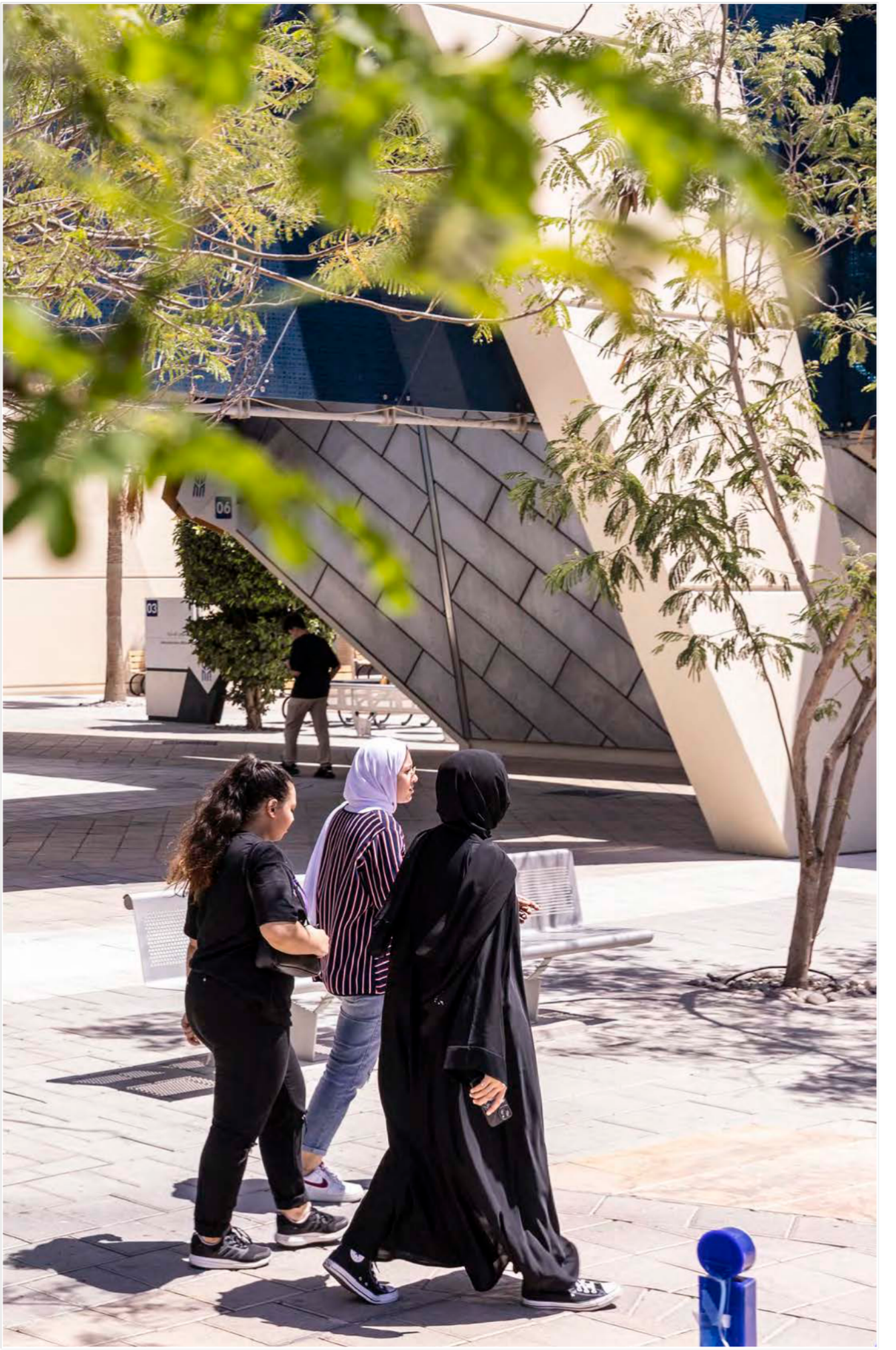
Graduate Career Opportunities:

The Bachelor of Business Administration in Logistics and Supply Chain Management (B.B.A. LSCM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

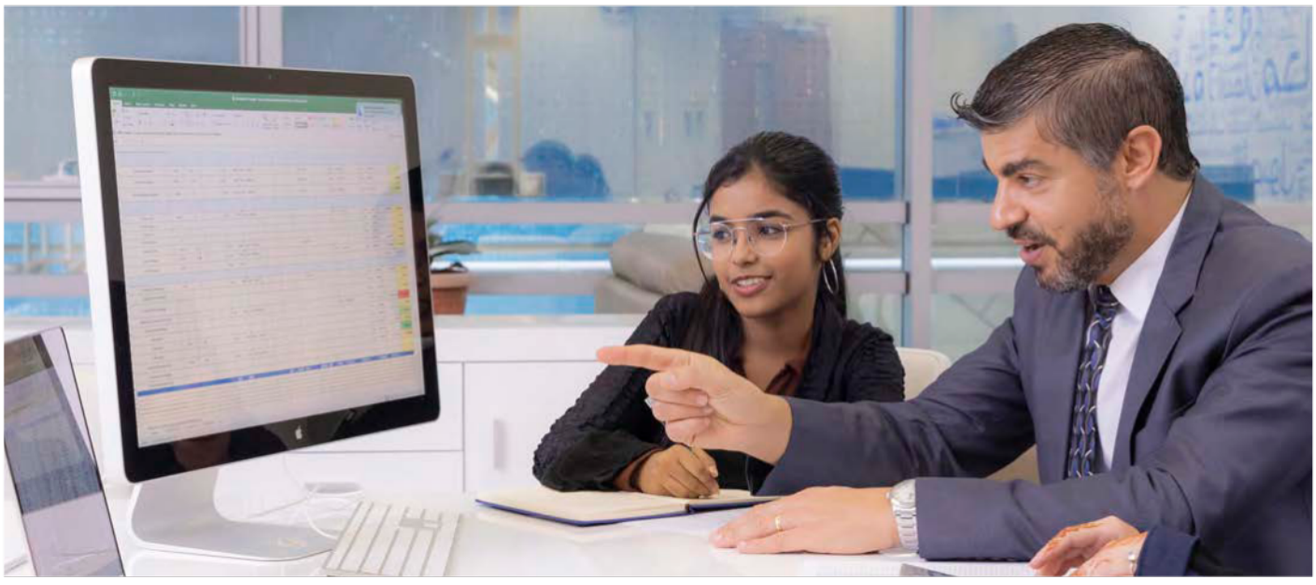
- Cargo Network Planning Analyst
- Logistics Analyst
- Logistics Executive
- Logistics Specialist
- Production and Operations Specialist (Manufacturing)
- Shipment Coordinator
- Supply and Distribution Specialist
- Supply Chain Coordinator

Program Webpage:

Click Here



Master's Programs



Master of Science in Accounting and Finance (M.Sc. AccFin)

Program Description:

The Master of Science in Accounting and Finance (M.Sc. AccFin) is awarded to students on the basis of a demonstrated achievement of program outcomes. The program is delivered over two years and includes academic, discipline-specific studies delivered through practical and experiential learning. The M.Sc. AccFin program offers an integrated approach that combines core practical accounting and finance application knowledge with applied research and analytical skills which are aligned with industry demands. Many courses include a research project as part of their assessment. Upon completion of the program, graduates will clearly demonstrate independent thinking in planning and implementing tasks at a professional level. Graduates demonstrate the global functions of practical accounting and financial knowledge, and are adept in dealing with complex issues in a systematic, strategic and creative way. Students develop the knowledge skills and competencies to apply an advanced body of knowledge in multiple contexts for both professional practice and as a pathway to a doctoral degree in Accounting or Finance.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor degree in Business from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.
2. Bachelor degree in an unrelated field of study from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale. In addition, bridging courses may be required.
3. Bachelor degree from an accredited higher education institution with GPA above 2.0 and below 3.0 on a 4.0 scale,with a minimum of five years' work experience in a related field. In addition, bridging courses may be required.

English Language Requirement:

1. The required score on the UDST English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, and
2. Employment certificate from current employer indicating minimum full-time employment experience in years

Master of Science in Accounting and Finance (M.Sc. AccFin)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate in 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Accounting and Finance (M.Sc. AccFin) program, graduates will be able to:

PEO01. Demonstrate strategic knowledge of finance that can be used in analysis and business decision-making
PEO02. Engage critical thinking skills based on quantitative finance theories to make sound investment decisions
PEO03. Evaluate international accounting issues and practices that meet International Financial Reporting Standards
PEO04. Build research skills in accounting and finance

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Accounting and Finance (M.Sc. AccFin) program, graduates will be prepared to:

SLO01. Evaluate corporate strategies pertaining to capital budgeting, capital structure, and working capital management
SLO02. Analyze various investment strategies used to identify assets for portfolio construction using financial models and theories in decision-making
SLO03. Critically appraise alternative solutions in financial decision making based on systematic analysis of complex business problems
SLO04. Integrate quantitative skills, financial ideas, models, and techniques to analyze and recommend solutions to management challenges
SLO05. Evaluate the accounting implications of an economic event according to the principles, standards, and practices of international financial reporting
SLO06. Formulate a well-diversified portfolio using the appropriate current software and technology and creative approaches

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	MSAF6100	Empirical Research Methods	-	-	3	3	0
	MSAF6105	Financial Management	-	-	3	3	0
	MSAF6101	Financial Statement Preparation & Analysis	-	-	3	3	0
				Semester 1 Total:	9	9	0
SEMESTER 2	MSAF6205	Advanced Corporate Finance	MSAF6101 MSAF6105	-	3	3	0
	MSAF6211	Advanced Management Accounting	-	-	3	3	0
	MSAF6201	International Financial Reporting	MSAF6101	-	3	3	0
				Semester 2 Total:	9	9	0
				Year 1 Total:	18	18	0

Master of Science in Accounting and Finance (M.Sc. AccFin)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	MSAF6305	Investments & Portfolio Management	MSAF6205	-	3	3	0
	Elective: Select 1 of 3						
	MSAF6315	Advanced Asset Pricing	MSAF6205	-	3	3	0
	MSAF6301	Contemporary Issues in Accounting & Financial Economics	MSAF6101 MSAF6105	-	3	3	0
	MSAF6325	Derivatives & Alternative Investments	MSAF6205	-	3	3	0
				Semester 3 Total:	6	6	0
SEMESTER 4	MSAF6400	Accounting & Finance Thesis	MSAF6100	-	6	2	12
				Semester 4 Total:	6	2	12
				Year 2 Total:	12	8	12
				M.Sc. AccFin Program Total:	30	26	12

Graduate Future Pathways:

Graduates of the Master of Science in Accounting and Finance (M.Sc. AccFin) program may choose to continue their post graduate studies and pursue a Doctorate degree in their area of specialization.

Graduate Career Opportunities:

The Master of Science in Accounting and Finance (M.Sc. AccFin) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Financial Analyst
- Financial Manager
- Investment Banker
- Financial Consultant
- Investor Relations Manager
- Portfolio Manager

Program Webpage:

Click Here

Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME)

Program Description:

The Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) is a cutting-edge program designed to equip students with the skills and knowledge needed to thrive in today's digital business landscape. The innovative program offers a comprehensive curriculum focused on applied education in key areas such as digital media, entrepreneurial marketing, e-commerce, strategic brand management, and technological-driven decision making.

Through a blend of theoretical insights and practical experiences, students will gain a deep understanding of the latest trends, strategies, and technologies shaping the digital marketing and entrepreneurship domains. Students will learn how to leverage digital channels effectively to reach target audiences, create compelling marketing campaigns, and drive business growth in the digital age.

The program places a strong emphasis on hands-on learning, with opportunities for students to work on real-world projects, collaborate with industry partners, and develop practical skills that are directly applicable to their future careers. Whether aspiring entrepreneurs or marketing professionals, graduates of this program will emerge as dynamic and innovative leaders prepared to navigate and success in today's fast-paced and constantly evolving digital business environment.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Business Administration from UDST; OR
2. Undergraduate degree in a related field of study from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within 2 years) TOEFL score of 90 and minimum score of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within 2 years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the undergraduate degree and/or post graduate diploma presented upon application, and
2. Employment certificate from current employer with minimum experience of 2 years full-time employment; OR
3. Applicants who have not completed an approved Business Studies Undergraduate Program may be considered for entry, and these applicants may be required to take and pass one or more Undergraduate courses to prepare them for success in this Master's Program.

Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) program, graduates will be able to:

PEO1. Examine the future of marketing from a technological perspective
PEO2. Recommend strategies to optimize customer relationships, customer support, product development and sales by using digital platforms
PEO03. Analyze marketing and consumer data insights to meet business objectives and opportunities
PEO04. Explore entrepreneurial and innovative activities at different stages of the business lifecycle in the context of digital society and economy
PEO05. Develop and manage a new venture in an effective, efficient and sustainable way

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) program, graduates will be prepared to:

SLO01. Apply marketing theories, concepts, models and tools to develop and execute effective digital marketing campaigns
SLO02. Analyze digital marketing trends in eCommerce, social selling, online buying behaviors and the consumer experience
SLO03. Create a marketing plan based on Big Data to optimize Return on Investment (ROI) and drive improved consumer experience
SLO04. Develop digital business venture plans by utilizing resources, business models, best practices to meet stakeholder expectations and ethical obligations
SLO05. Propose a range of strategic options for funding new ventures including public and private sources

Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	DMET5010	Contemporary Issues in Digital Marketing	-	-	3	3	0
	BUSG5010	Advanced Business Research Methods	-	-	3	3	0
	DMET5020	Marketing Management & Digital Strategies	-	-	3	3	0
				Semester 1 Total:	**9**	**9**	**0**
SEMESTER 2	BUSG5020	Decision Making & Negotiation	-	-	3	3	0
	DMET5030	Digital Media & Viral Marketing	DMET5020	-	3	3	0
	DMET6091	Entrepreneurial Marketing	-	-	3	3	0
				Semester 2 Total:	**9**	**9**	**0**
				Year 1 Total:	**18**	**18**	**0**

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	DMET6010	E-Commerce & Entrepreneurship	DMET5030	-	3	3	0
	DMET6020	Business Models in the Digital Age	DMET5030	-	3	3	0
	DMET6099	Digital Marketing & Entrepreneurship Thesis	BUSG5010 & Minimum 12CRs	-	Credits will not be counted in this semester. Course will be assessed in the final semester		
	DMET6092	Strategic Brand Management	-	-	3	3	0
				Semester 3 Total:	**9**	**9**	**0**
SEMESTER 4	DMET6099	Digital Marketing & Entrepreneurship Thesis	BUSG5010 & Min 12 Credits	-	6	0	18
	DMET6093	Technology-driven Decision Making	DMET6020	-	3	3	0
				Semester 4 Total:	**9**	**3**	**18**
				Year 2 Total:	**18**	**12**	**18**
				Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) Total:	**36**	**30**	**18**

Graduate Future Pathways:

Graduates of the Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) program may choose to continue their studies and pursue a Doctorate degree in their area of specialization.

Graduate Career Opportunities:

The Master of Science in Digital Marketing and Entrepreneurship (M.Sc. DME) is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chief Marketing Officer (CMO)
- Consultant
- Content Marketing Manager
- Digital Marketing Assistant
- Digital Marketing Manager
- Digital Marketing Specialist
- Director of Marketing
- Entrepreneur
- Marketing Coordinator
- Social Media Manager
- Start-up Founder

Program Webpage:

Click Here

Master of Science in Human Resource Management (M.Sc. HRM)

Program Description:

The Master of Science in Human Resource Management (M.Sc. HRM) is a two year post-graduate program which provides graduates with the knowledge skills and competencies to meet the growing needs of human capital. Graduating students will be able to demonstrate an applied practical knowledge of human resource functions, and deal with complex issues systematically and creatively. The program uses an integrated approach to develop independent thinking in planning and implementing tasks at a professional level. It combines courses in core business areas with research-focused courses in a model fit for the specialization. In particular the program addresses issues such as labor-capital shortages, HR field skills gaps, and the development of the local and expatriate labor force. Graduates possess the ability to apply an advanced body of knowledge in multiple contexts for professional practice and as a pathway for a doctoral degree in human resource management.

Graduates are well positioned to effectively participate in the economic growth, social development and environmental management requirements of Qatar National Vision 2030.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Business Administration from UDST; OR
2. Bachelor degree in a related field of study from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, and
2. Employment certificate from current employer with minimum experience of two years full-time employment, OR
3. Applicants who have not completed a related Business Studies Bachelor Program may be considered for entry, and these applicants may be required to successfully complete one or more Bachelor courses to prepare them for success in this Master's Program.

Master of Science in Human Resource Management (M.Sc. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Human Resource Management (M.Sc. HRM) program, graduates will be able to:

PEO01. Demonstrate mastery of applied and theoretical knowledge to reflect critically on established theories and professional practice in Human Resource Management
PEO02. Synthesize complex information related to business decision making in general and Human Resource Management in particular, by using their cognitive, analytical, and creative skills
PEO03. Interpret Human Resource Management frameworks, propositions, methodologies and professional decisions to specialist and non-specialist audience
PEO04. Develop and execute a substantial research-based project, or thesis experience and/or piece of scholarship
PEO05. Demonstrate self-reflection and originality in problem solving
PEO06. Build effective working relationship with colleagues from diverse skills, experience levels in domestic and international environments

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Human Resource Management (M.Sc. HRM) program, graduates will be prepared to:

SLO01. Evaluate the effectiveness of strategic HR models in problem solving and decision making
SLO02. Analyze narrative and cognitive methods in collecting human capital data
SLO03. Develop competency-based strategies for effective talent management programs and initiatives
SLO04. Evaluate the effectiveness of various HRP tools resolving workforce planning issues
SLO05. Analyze strategies used to forecast labor supply and demand in domestic and international contexts
SLO06. Conduct independent research to assist the organization in resolving current HR issues
SLO07. Apply appropriate HR theories and models to resolve problem/s faced by an organization
SLO08. Evaluate legal and ethical obligations in assessing organizational performance in domestic and international environments

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	HRMG5010	Contemporary Issues in Human Resources	-	-	3	3	0
	BUSG5010	Advanced Business Research Methods	-	-	3	3	0
	BUSG5020	Decision Making & Negotiation	-	-	3	3	0
				Semester 1 Total:	**9**	**9**	**0**
SEMESTER 2	BUSG5030	Corporate Social Responsibility & Governance	-	-	3	3	0
	HRMG5020	People Analytics	-	-	3	3	0
	Elective: Select 1 of 2						
	HRMG6081	Global Talent Management	HRMG5010	-	3	3	0
	HRMG6091	Organizational Development & Change	HRMG5010	-	3	3	0
				Semester 2 Total:	**9**	**9**	**0**
				Year 1 Total:	**18**	**18**	**0**

Master of Science in Human Resource Management (M.Sc. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	HRMG5030	Leading Strategic HR Transformation	HRMG5010	-	3	3	0
	HRMG5040	Digital Human Resources	HRMG5010	-	3	3	0
	HRMG5099	Human Resource Management Thesis	BUSG5010	-	Credits will not be counted in this semester. Course will be assessed in the final semester		
	Elective: Select 1 of 2						
	HRMG6082	Culture & Diversity Management	-	-	3	3	0
	HRMG6092	Talent Management & Development	-	-	3	3	0
				Semester 3 Total:	**9**	**9**	**0**
SEMESTER 4	HRMG5099	Human Resource Management Thesis	BUSG5010	-	6	0	18
	Elective: Select 1 of 2						
	HRMG6083	Managing Change in Multinational Corporations	HRMG5010	-	3	3	0
	HRMG6093	Design Thinking & Creativity	-	-	3	3	0
				Semester 4 Total:	**9**	**3**	**18**
				Year 2 Total:	**18**	**12**	**18**
				M.Sc. HRM Program Total:	**36**	**30**	**18**

Graduate Future Pathways:

Graduates of the Master of Human Resource Management (M.Sc. HRM) program may choose to continue their post graduate studies and pursue a Doctorate degree in their area of specialization.

Program Webpage:

Click Here

Graduate Career Opportunities:

The Master of Science in Human Resource Management (M.Sc. HRM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Human Resources (HR) Manager
- Compensation & Benefits Manager
- Human Resources Information Systems (HRIS) Manager
- Talent & Acquisition Manager
- Learning & Development Manager
- Recruitment Manager

College of Computing and Information Technology (CCIT)

Information Technology (IT) is a broad and rapidly growing field that is critical to businesses, governments and everyday life. CCIT offers cutting-edge diplomas, undergraduate and graduate programs developed by distinguished faculty and industry experts, allowing students to specialize in Information Systems, Information Technology, Data and Cyber Security, Data Science and Artificial Intelligence, Software Engineering, Digital Communication and Media Production, or Artificial Intelligence and Cognitive Cybersecurity.

We are proud of our commitment to providing applied, experience-based education in IT-related disciplines and a vital component of this educational experience is the faculty. CCIT faculty have research and industry expertise and liaise with industry in the development and delivery of curriculum to ensure students receive in-demand IT training. In addition, CCIT faculty are passionate about education and committed to inspiring and supporting students through their learning journey.

CCIT has many state-of-the-art laboratories dedicated to developing student knowledge, skills and competencies in IT. Out of these laboratories, there are:

1. The Cyber Security Lab. founded in partnership with Palo Alto Networks, supports cutting-edge research and teaching on different cyber security areas, with the ability to share research and information regionally and globally.

2. The AI founded lab in partnership with Huawei as part of Huawei ICT Academy support teaching in AI along with engaging in cutting-edge research.

Like the IT industry in Qatar, CCIT is dynamic and ever-growing. Our College is committed to offering current programs and courses that contribute to developing in-demand skills and competencies to support Qatar's technology leadership in the region and internationally.

كلية الحوسبة وتكنولوجيا المعلومات
College of Computing & IT

جامعة الدوحة للعلوم والتكنولوجيا
UNIVERSITY OF DOHA FOR SCIENCE & TECHNOLOGY

Diploma Programs

Diploma in Information Systems (Dip. IS)

Program Description:

The Diploma in Information Systems (Dip. IS) is a two-year program that prepares graduates with the knowledge, skills and competencies needed to launch an exciting career in Information Systems (IS). After completing this hands-on diploma program, graduates will possess a foundation in IS and networking concepts, programming languages, cybersecurity and Web technologies.

The Dip. IS program enables students to:

- Build a strong foundation in information systems
- Develop skills applicable to the rapidly changing information systems industry
- Learn through integrating applied real-world experiences
- Build knowledge, skills and capabilities aligned to the requirements of leading international information systems bodies

Students engage in hands-on experiential learning through applied assignments and a required IS work placement and a technical project. Graduates are well positioned to support the maintenance of information systems in a wide variety of fields.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Information Systems (Dip. IS)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Information Systems (Dip. IS) program, graduates will be able to:

PEO01. Integrate Information Systems solutions
PEO02. Apply policies and procedures approved by executive officials to ensure adherence to best practice in information systems and data protection
PEO03. Utilize current and emerging safeguards to ensure the safety and authenticity of organizational data
PEO04. Implement innovative business solutions to provide added value to the organization
PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Information Systems (Dip. IS) program, graduates will be prepared to:

SLO01. Analyze a broadly-defined computing problem and apply principles of information systems to identify solutions
SLO02. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of information systems
SLO03. Communicate effectively in a variety of professional contexts
SLO04. Recognize professional responsibilities and make informed judgments in computing practice
SLO05. Function effectively as member of a team engaged in activities appropriate to information systems

Diploma in Information Systems (Dip. IS)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	INFT1201	Computer Hardware	-	-	4	3	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**13**	**11**	**6**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
				Semester 2 Total:	**14**	**11**	**9**
SEMESTER 3	INFT2202	Linux Foundations	INFT2101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 3 Total:	**6**	**5**	**4**
				Year 1 Total:	**33**	**27**	**19**

Diploma in Information Systems (Dip. IS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
				Semester 4 Total:	**12**	**8**	**12**
SEMESTER 5	COMP2201	Technical Project	Min 39 Credits	-	3	1	6
	INFS3103	Systems Analysis & Design	INFS2201	-	3	2	3
	INFS3201	Web Technologies II	INFS2101 INFS2201 INFS3102	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
				Semester 5 Total:	**12**	**7**	**15**
SEMESTER 6	COMP2301	Work Placement	COMP2201	-	9	360 Total HRs	
				Semester 6 Total:	**9**	**0**	**0**
				Year 2 Total:	**33**	**15**	**27**
				Dip. IS Program Total:	**66**	**42**	**46**

Graduate Future Pathways:

Graduates of the Diploma in Information Systems (Dip. IS) program are eligible for advanced entry into the Bachelor of Science in Information Systems (B.Sc. IS). Graduates may also apply to the Bachelor of Science in Information Technology (B.Sc. IT), the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI), Software Engineering (B.Sc. SE) or the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) programs.

Program Webpage:

Click Here

Graduate Career Opportunities:

The Diploma in Information Systems (Dip. IS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Junior Information Systems Administrator
- Information Systems Support Specialist
- System Architect Support Technician
- Information Systems Design Specialist
- Junior Information System Analyst
- Government Data System Support Specialist

Diploma in Information Technology (Dip. IT)

Program Description:

The Diploma in Information Technology (Dip. IT) is a two-year program that prepares graduates with the knowledge, skills and competencies needed to enter an exciting career in Information Technology (IT). After completing this hands-on diploma program, graduates will possess a foundation in information technology and evolving computing practices and methods.

The Dip. IT program enables students to:

- Build a strong foundation in information technology
- Develop skills applicable to the rapidly changing information technology industry
- Learn through integrating applied real-world experiences
- Build knowledge, skills and capabilities aligned to the requirements of leading international IT bodies

Graduates are well positioned to support of Information Technology processes. Students engage in hands-on experiential learning through applied assignments and a required IT work placement and a technical project. Graduates are well positioned to launch their career in IT.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Information Technology (Dip. IT)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Information Technology (Dip. IT) program, graduates will be able to:

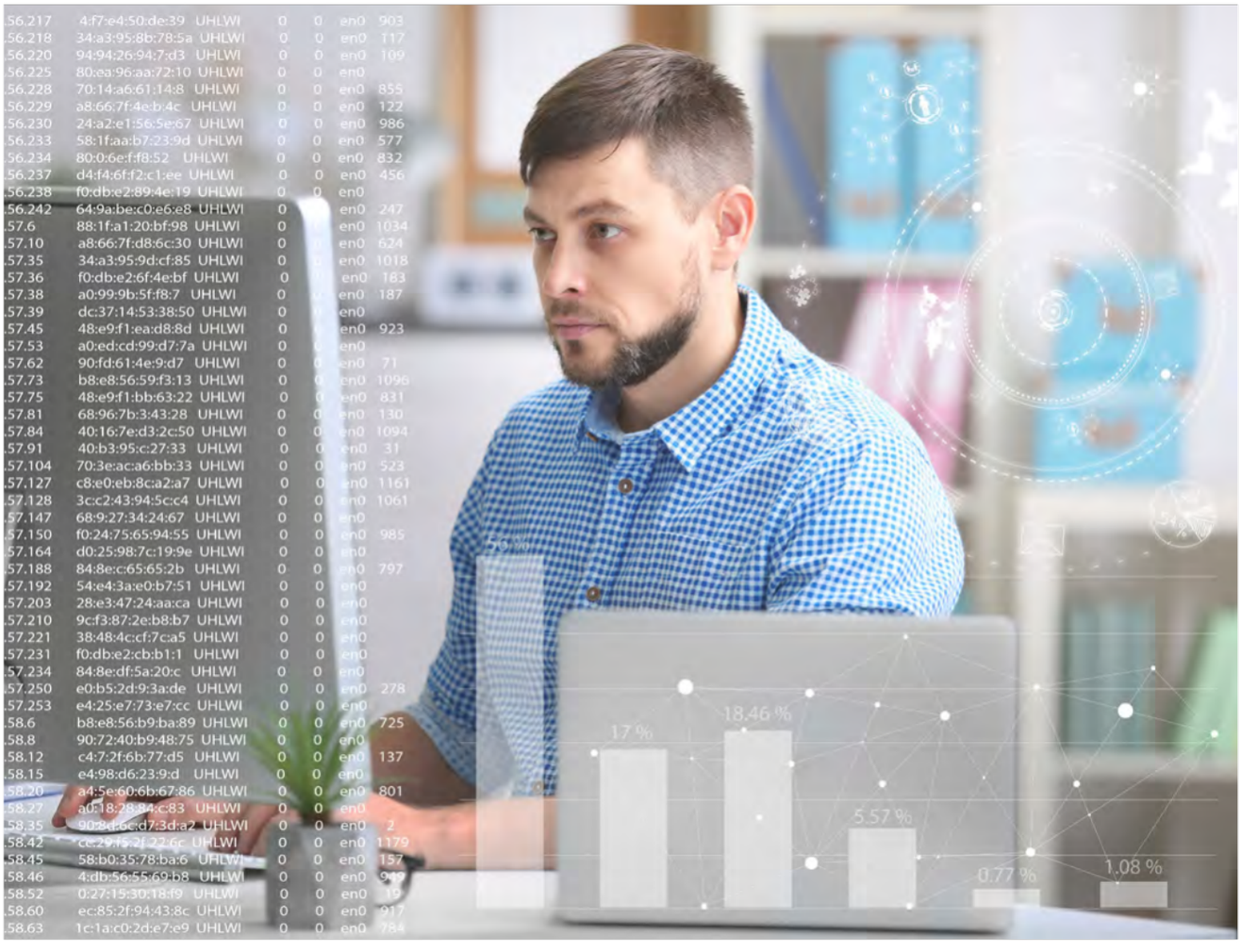
PEO01. Integrate Information Technology solutions
PEO02. Apply policies and procedures approved by executive officials to ensure adherence to best practice in information technology and data protection
PEO03. Utilize current and emerging safeguards to ensure the safety and authenticity of organizational data
PEO04. Implement innovative information technology solutions to provide added value to the organization
PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Information Technology (Dip. IT) program, graduates will be prepared to:

SLO01. Analyze a broadly-defined computing problem and apply principles of information technology to apply solutions
SLO02. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of information technology
SLO03. Communicate effectively in a variety of professional contexts
SLO04. Recognize professional responsibilities and make informed judgments in computing practice
SLO05. Function effectively as a member of a team engaged in activities appropriate to information technology



Diploma in Information Technology (Dip. IT)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	INFT1201	Computer Hardware	-	-	4	3	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**13**	**11**	**6**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
				Semester 2 Total:	**14**	**11**	**9**
SEMESTER 3	INFT3301	IT Service Management	INFS1101 INFT2101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 3 Total:	**6**	**5**	**4**
				Year 1 Total:	**33**	**27**	**19**

Diploma in Information Technology (Dip. IT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFT2103	Network Implementation	INFT2101	-	3	2	3
	INFT2104	System Administration	INFT2101	-	3	2	3
	INFT2202	Linux Foundations	INFT2101	-	3	2	3
				Semester 4 Total:	12	8	12
SEMESTER 5	COMP2201	Technical Project	Min 39 Credits	-	3	1	6
	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	INFT2203	Network Design	INFT2103	-	3	2	3
	INFT2204	Enterprise Services	INFT2104 INFT2202	-	3	2	3
				Semester 5 Total:	12	7	15
SEMESTER 6	COMP2301	Work Placement	COMP2201	-	9	360 Total HRs	
				Semester 6 Total:	9	0	0
				Year 2 Total:	**33**	**15**	**27**
				Dip. IT Program Total:	**66**	**42**	**46**

Graduate Future Pathways:

Graduates of the Diploma in Information Technology (Dip. IT) program are eligible for advanced entry into the Bachelor of Science in Information Technology (B.Sc. IT). Graduates may also apply to the Bachelor of Science in Information Systems (B.Sc. IS), the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI), Software Engineering (B.Sc. SE) or the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) programs.

Graduate Career Opportunities:

The Diploma in Information Technology (Dip. IT) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- IT Support Specialist
- IT Systems Administration Support
- IT Help Desk Specialist
- Business Development and Solutions Specialist
- Venue Technology Coordinator
- Hardware Engineering Support

Program Webpage:

Click Here

Bachelor Programs

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Program Description:

The Bachelor of Science in Data and Cyber Security (B.Sc. DCS) is a four-year program which provides students with the applied knowledge and skills needed for a dynamic career in the field of Data and Cyber Security (DCS). The program includes DCS courses alongside various foundational computing discipline courses, enabling graduates to contribute to the operational context of DCS functions. The interdisciplinary nature of cyber security includes elements of data security. It focuses on how hardware and software systems can be designed and operated to ensure business or institutional security by reducing the threat of unauthorized access or intervention. The B.Sc. DCS program develops students' abilities to design, implement, and maintain advanced security mechanisms, policies and procedures within information technology environments. This is supported by exposure to data security techniques offering students a solid understanding of cyber risk assessment and safe data management strategies. These skill sets, when consolidated through the completion of an industry work placement and a capstone project, will prepare graduates for an exciting career in modern-day DCS.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation

Within a few years of graduation from the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program, graduates will be able to:

PEO01. Manage information technology, data, and cyber security environments
PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practices in information technology and data protection
PEO03. Evaluate current and emerging safeguards for use to ensure the safety and authenticity of an organization's data
PEO04. Provide threat and vulnerability analyses along with security solutions and business advisory services
PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation

Upon successful completion of the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program, graduates will be prepared to:

SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
SLO03. Communicate effectively in a variety of professional contexts
SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
SLO06. Apply security principles and practices to maintain operations in the presence of risks and threats

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 2 Total:	**14**	**12**	**7**
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 3 Total:	**6**	**6**	**0**
				Year 1 Total:	**32**	**29**	**10**

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	DACS2101	Discrete Structures	INFS1101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	MATH1050	Linear Algebra	-	-	3	3	1
				Semester 4 Total:	13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
				Semester 5 Total:	12	8	12
SEMESTER 6	SOFT2301	Software Project Management	Min 50 Credits	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	6	5	3
				Year 2 Total:	**31**	**23**	**25**

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	DACS3101	Applied Cryptography	DACS2101	-	3	2	3
	INFT3101	Networking II	INFT2101	-	3	2	3
	INFT2201	Introduction to Operating Systems	INFS1201 & (INFT1201 OR SOFT2301)	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**9**	**9**
SEMESTER 8	DACS3201	Network Security	INFT3101	-	3	2	3
	DACS3202	Cyber Security Analytics & Visualization	DSAI2201	-	3	2	3
	DACS3203	Secure Software Development	INFS3102	-	3	2	3
	INFS3201	Web Technologies II	INFS2101 INFS2201 INFS3102	-	3	2	3
				Semester 8 Total:	**12**	**8**	**12**
SEMESTER 9	DACS3301	Privacy in the Digital Era	DACS2201	-	3	3	0
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	**6**	**6**	**0**
				Year 3 Total:	**30**	**23**	**21**

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DACS4101	Security Engineering Principles	DACS3101	-	3	2	3
	DACS4103	Scripting for Cyber Security	INFS3102	-	3	2	3
	Elective: Select 1 of 3						
	DACS4102	Web Security	INFS3201	-	3	2	3
	DACS4105	Cyber Physical Architectures & Protocols	INFT3101	-	3	2	3
	DACS4210	Cyber Security Policies, Strategies & Procedures	DACS3301	-	3	3	0
				Semester 10 Total:	**12**	**8**	**12**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	9
	DACS4206	Security Monitoring & Incident Response	DACS3202	-	3	2	3
	Elective: Select 2 of 6						
	DACS4202	Penetration Testing	DACS3203	-	3	2	3
	DACS4203	IoT & OT Hacking	DACS2201 INFS3102	-	3	2	3
	DACS4204	Cloud Security	DACS3201	-	3	2	3
	DACS4205	Digital Forensics	DACS3203	-	3	2	3
	DACS4208	Industrial Control Systems Security	DACS4105	-	3	2	3
	INFT4208	Governance & Management of IT	INFT3101	-	3	3	0
				Semester 11 Total:	**12**	**7**	**15**
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**33**	**15**	**27**
				B.Sc. DCS Program Total	**126**	**90**	**83**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Data and Cyber Security (B.Sc. DCS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Computer Systems Security Analyst
- Cyber Security Analyst
- Information Security Analyst
- Information Security Risk Analyst
- Data Security Manager
- IT Auditor
- Penetration and Vulnerability Tester (Ethical Hacker)
- Digital Forensic Specialist
- Governance, Risk and Compliance Officer

Program Webpage:

Click Here

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Program Description:

The Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) is a four-year program which provides students with the applied knowledge and skills needed for exciting careers in the field of Data Science and Artificial Intelligence (DSAI). The program includes foundational information technology (IT) courses which, in combination with DSAI courses, will enable graduates to both understand and contribute to the IT context in which data science and artificial intelligence (AI) associated functions are performed. Students develop skills to leverage AI in the collection, analysis and interpretation of data for decision making that can be applied in any field. This is supported by data science techniques offering students a solid understanding of data management strategies. These skill sets, when consolidated through the completion of an industry work placement and a capstone project, prepare graduates for an exciting career in contemporary information technology, data science and AI.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma or equivalent approved by the Ministry of Education and Higher Education; OR
3. One-year Advanced Information Technology Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program, graduates will be able to:

PEO01. Manage information technology, data-driven environments and autonomous intelligent systems
PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology, data management and governance, including data security and privacy aspects
PEO03. Evaluate current and emerging data collection and analysis tools to optimize business processes and fuel data-driven decisions to ensure businesses sustainability and growth
PEO04. Design digital transformation processes and systems that transform businesses and society and shape the future for the better by adhering to strict ethical principles
PEO05. Engage in lifelong learning, professional development and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program, graduates will be prepared to:

SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
SLO03. Communicate effectively in a variety of professional contexts, in particular present effectively and visually results of data analytics
SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
SLO06. Apply theory, techniques, and tools throughout the data science lifecycle and employ the resulting knowledge to satisfy stakeholders' needs

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 2 Total:	**14**	**12**	**7**
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 3 Total:	**6**	**6**	**0**
				Year 1 Total:	**32**	**29**	**10**

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	DACS2101	Discrete Structures	INFS1101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	MATH1050	Linear Algebra	-	-	3	3	1
				Semester 4 Total:	**13**	**10**	**10**
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
				Semester 5 Total:	**12**	**8**	**12**
SEMESTER 6	SOFT2301	Software Project Management	Min 50 Credits	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	**6**	**5**	**3**
				Year 2 Total:	**31**	**23**	**25**

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	INFT2201	Introduction to Operating Systems	INFS1201 (INFT1201 OR SOFT2301)	-	3	2	3
	INFS3104	Data Structures & Algorithms	(INFS3102 & DACS2101) OR (INFS3102 & INFT2102)	-	3	2	3
	INFS3201	Web Technologies II	INFS2101 INFS2201 INFS3102	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**9**	**9**
SEMESTER 8	DSAI3201	Machine Learning	INFS3102 MATH1030 MATH1050	-	3	2	3
	DSAI3202	Parallel & Distributed Computing	INFS3104	-	3	2	3
	DSAI3203	Fundamentals of AI	DACS2101	-	3	2	3
	DSAI3204	IoT Application Development	INFS3201	-	3	2	3
				Semester 8 Total:	**12**	**8**	**12**
SEMESTER 9	DSAI3301	Data Analysis & Visualization	DSAI2201 MATH1040	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	**6**	**5**	**3**
				Year 3 Total:	**30**	**22**	**24**

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DSAI4101	Applied Deep Learning & Neural Network	DSAI3201	-	3	2	3
	DSAI4104	Fundamentals of IoT	INFT2101	-	3	2	3
	Elective: Select 1 of 2						
	DSAI4102	Applied Data Mining	DSAI3201	-	3	2	3
	DSAI4106	Embedded Systems & IoT	INFT2101	-	3	2	3
				Semester 10 Total:	**12**	**7**	**15**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	9
	DSAI4103	Advanced Business Analytics	MATH1040 DSAI3301	-	3	2	3
	Elective: Select 2 of 4						
	DACS4203	IoT & OT Hacking	DACS2201 INFS3102	-	3	2	3
	DSAI4201	Selected Topics in Data Science	DSAI4101	-	3	2	3
	DSAI4202	Information Retrieval	DSAI3201	-	3	2	3
	DSAI4205	Autonomous IoT	DSAI3202	-	3	2	3
				Semester 11 Total:	**12**	**6**	**18**
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**33**	**13**	**33**
				B.Sc. DSAI Program Total:	**126**	**87**	**92**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Data Mining Analyst
- AI Architect
- Business Analyst
- Big Data Specialist
- AI System Designer
- Machine Learning Specialist
- Business Intelligence Developer
- Data Scientist
- Data Science Trainer

Program Webpage:

Click Here

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (English Track)

Program Description:

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is a four-year program which prepares graduates to embark on a professional career path in digital communication, media production, and related professions. In this applied degree, students develop technical proficiency with a range of digital media tools and techniques. Focusing on the fundamentals of digital communication, including visual design, programming, and audio and video production students gain essential digital authoring and development skills. Graduates possess a range of digital communication skills in content creation, production, presentation, organization and assessment, as well as channel development. The program includes an industry work placement and a capstone project where students can gain field related practical experience providing students with the experience to launch a career in the exciting and evolving field of digital communication and media production.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%;
2. Two-year Digital Communication and Media Production Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent).
2. All applicants to the program must submit both a visual portfolio and a written statement as part of the admission requirements. Please follow this link for more information on preparing the Application Portfolio for admission to this program.
   B.Sc. DCMP Online Portfolio Guidelines

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (English Track)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be able to:

PEO01. Develop comprehensive knowledge and competence for a career in digital communication and media production
PEO02. Communicate effectively to diverse audiences using a variety of contemporary media techniques and strategies
PEO03. Function professionally in leadership, strategy, marketing and other management roles in the digital communication and media industry
PEO04. Make use of personal and cognitive skills to be effective communicators, entrepreneurs, and media producers
PEO05. Demonstrate ethical and legal responsibility in information dissemination to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be prepared to:

SLO01. Compare current digital communication and media production concepts and techniques
SLO02. Present ideas and information accurately and creatively using written, oral, audio-visual and web-based formats
SLO03. Demonstrate the ability to design professional level digital communication media using industry standard digital technologies
SLO04. Produce professional quality audio, video and alternative media content
SLO05. Integrate ethical and legal principles and skills in creating media communication content

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**4**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	DCMP1001	Media Theory & Practice	-	-	3	2	3
	DCMP1003	Qatar Media History	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
				Semester 2 Total:	**12**	**11**	**3**
SEMESTER 3	MRKT1001	Principles of Marketing	-	-	3	2	3
	Mathematics & Natural Sciences Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**27**	**10**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (English Track)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	DCMP2001	Digital Communication Strategies	DCMP1001	-	3	2	3
	DCMP2010	Introduction to Journalism	COMM1020	-	3	2	3
	DCMP2015	Introduction to Visual Communications	DCMP1001 OR DCMP1001A	-	3	2	3
	DCMP2035	Studio Production I	DCMP1001 & Min 24 Credits	-	3	2	3
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
				Semester 4 Total:	**15**	**10**	**15**
SEMESTER 5	DCMP2005	Digital Media Communication	MRKT2003	-	3	2	3
	DCMP2030	Newswriting Techniques	COMM1020	-	3	2	3
	DCMP2045	Studio Production II	DCMP2035	-	3	2	3
	Social Science, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 5 Total:	**12**	**9**	**9**
SEMESTER 6	DCMP2040	Future Digital Journalism & Media	DCMP1001 DCMP2010	-	3	2	3
	DCMP2060	Qatar Media Law	-	-	3	2	3
				Semester 6 Total:	**6**	**4**	**6**
				Year 2 Total:	**33**	**23**	**30**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (English Track)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	DCMP2025	Graphic Design Fundamentals	MATH1010	-	3	2	3
	DCMP3010	Project Management in Media	-	-	3	2	2
	DCMP3020	Data Journalism	(DCMP2010 OR DCMP2010A) DCMP2015	-	3	2	3
	DCMP3021	Media Technology	-	-	3	2	3
				Semester 7 Total:	**12**	**8**	**11**
SEMESTER 8	DCMP2050	Strategic Storytelling	DCMP2040	-	3	2	3
	DCMP3005	Documentary Production	DCMP2015	-	3	2	3
	DCMP3032	Human Computer Interaction in Media	DCMP2025	-	3	2	3
	DCMP3050	Immersive Technology & Concept Art	DCMP1001 DCMP2045	-	3	2	3
				Semester 8 Total:	**12**	**8**	**12**
SEMESTER 9	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
				Semester 9 Total:	**6**	**4**	**6**
				Year 3 Total:	**30**	**20**	**29**

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DCMP4006	Sound Design & Audio Production	DCMP3021 OR DCMP3021A	-	3	2	3
	DCMP4015	Video & Film Production	DCMP3021	-	3	2	3
				Semester 10 Total:	**12**	**8**	**12**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	DCMP4025	Digital & Alternative Media Production	DCMP3021 OR DCMP3021A	-	3	2	3
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	2	3
	Elective: Select 1 of 2						
	DCMP4040	Transmedia Production	Min 80 Credits	-	3	2	3
	DCMP4045	3D Modelling & Virtual Reality	DCMP2025	-	3	2	3
				Semester 11 Total:	**12**	**6**	**15**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (English Track)

Year 4 *Contd.*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	9	0	0
				Year 4 Total:	**33**	**14**	**27**
				B.Sc. DCMP (English Track) Program Total:	**126**	**84**	**96**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

Social Media Content Creator
- Social Media Coordinator
- Social Media Content Manager
- Communication Specialist
- Media Planner
- Transmedia Specialist
- Marketing Specialist
- Public Relations Manager
- Producer
- Journalist
- Radio Host
- Television Director
- Camera Operator
- Video Editor
- Live Video Mixer
- Sound Recordist
- Audio Engineer
- Documentary Producer
- Documentary Director
- Directing Assistant
- Director of Photography
- Camera Assistant
- Film Editor
- Film Colorist
- Sound Designer
- Grip & Electric Crew

Program Webpage:

Click Here

Vinten

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (Arabic - English Track)

Program Description:

بكالوريوس العلوم في الاتصال الرقمي والإنتاج الإعلامي (B.Sc. DCMP) بمساره الإنجليزي – العربي هو برنامج مدته أربع سنوات و يعد الخريجين لرسم طريق نحو مجال الاتصال الرقمي و إنتاج الوسائط الإعلامية و مهن أخرى ذات صلة. خلال هذه الدرجة التطبيقية يطور الطلاب الكفاءات التقنية من خلال عدد من وسائط الإعلام الرقمية وعن طريق التركيز على أساسيات الاتصال الرقمي متضمنة: التصميم البصري والبرمجة والإنتاج السمعي والبصري. سيكتسب الطلاب مجموعة من مهارات الاتصال الرقمي وصناعة المحتوى، العرض والتنظيم والتقييم وتطوير القنوات الإعلامية ايضاً. يتضمن البرنامج تدريبًا عمليًا في المجال ومشروع تخرج لتمكين الطلاب من اكتساب خبرة عملية ذات صلة في مجال العمل وتزويدهم بالخبرات اللازمة لبدء مهنة في مجال الاتصال الرقمي المتميز والمتطور.

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is a four-year program which prepares graduates to embark on a professional career path in digital communication, media production, and related professions. In this applied degree, students develop technical proficiency with a range of digital media tools and techniques. Focusing on the fundamentals of digital communication, including visual design, programming, and audio and video production students gain essential digital authoring and development skills. Graduates possess a range of digital communication skills in content creation, production, presentation, organization and assessment, as well as channel development. The program includes an industry work placement and a capstone project where students can gain field related practical experience providing students with the experience to launch a career in the exciting and evolving field of digital communication and media production.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%;
2. Two-year Digital Communication and Media Production Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent).
2. All applicants to the program must submit both a visual portfolio and a written statement as part of the admission requirements. Please follow this link for more information on preparing the Application Portfolio for admission to this program.
   B.Sc. DCMP Online Portfolio Guidelines

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (Arabic - English Track)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be able to:

PEO01. Develop comprehensive knowledge and competence for a career in digital communication and media production
PEO02. Communicate effectively to diverse audiences using a variety of contemporary media techniques and strategies
PEO03. Function professionally in leadership, strategy, marketing and other management roles in the digital communication and media industry
PEO04. Make use of personal and cognitive skills to be effective communicators, entrepreneurs, and media producers
PEO05. Demonstrate ethical and legal responsibility in information dissemination to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be prepared to:

SLO01. Compare current digital communication and media production concepts and techniques
SLO02. Present ideas and information accurately and creatively using written, oral, audio-visual and web-based formats
SLO03. Demonstrate the ability to design professional level digital communication media using industry standard digital technologies
SLO04. Produce professional quality audio, video and alternative media content
SLO05. Integrate ethical and legal principles and skills in creating media communication content

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	2	3
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**4**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	DCMP1001A	Media Theory & Practice (نظريات الإعلام والممارسات)	-	-	3	2	3
	DCMP1003A	Qatar Media History (تاريخ قطر الإعلامي)	-	-	3	3	0
	GARC2001A	Human Development in Qatar (التنمية البشرية في قطر)	-	-	3	3	0
				Semester 2 Total:	**12**	**11**	**3**
SEMESTER 3	MRKT1001	Principles of Marketing	-	-	3	2	3
	Mathematics & Natural Sciences Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 3 Total:	**6**	**5**	**3**
				Year 1 Total:	**30**	**27**	**10**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (Arabic - English Track)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	DCMP2001A	Digital Communication Strategies (استراتيجيات الاتصال الرقمي)	DCMP1001A	-	3	2	3
	DCMP2010A	Introduction to Journalism (مقدمة في الصحافة)	COMM1020	-	3	2	3
	DCMP2015	Introduction to Visual Communications	DCMP1001 OR DCMP1001A	-	3	2	3
	DCMP2035A	Studio Production I (ستوديو الإنتاج 1)	DCMP1001A & Min 24 Credits	-	3	2	3
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
				Semester 4 Total:	**15**	**10**	**15**
SEMESTER 5	DCMP2005A	Digital Media Communication (وسائل الإعلام الرقمية والاتصالات)	MRKT2003	-	3	2	3
	DCMP2030A	Newswriting Techniques (تقنيات كتابة الأخبار)	COMM1020	-	3	2	3
	DCMP2045A	Studio Production II (ستوديو الإنتاج 2)	DCMP2035A	-	3	2	3
	Social Science, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 5 Total:	**12**	**9**	**9**
SEMESTER 6	DCMP2040A	Future Digital Journalism & Media (مستقبل الصحافة الرقمية والإعلام)	DCMP1001A DCMP2010A	-	3	2	3
	DCMP2060A	Qatar Media Law (قانون الإعلام القطري)	-	-	3	2	3
				Semester 6 Total:	**6**	**4**	**6**
				Year 2 Total:	**33**	**23**	**30**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (Arabic - English Track)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	DCMP2025	Graphic Design Fundamentals	MATH1010	-	3	2	3
	DCMP3010	Project Management in Media	-	-	3	2	2
	DCMP3020	Data Journalism	(DCMP2010 OR DCMP2010A) DCMP2015	-	3	2	3
	DCMP3021A	Media Technology (تكنولوجيا وسائط الإعلام)	-	-	3	2	3
				Semester 7 Total:	12	8	11
SEMESTER 8	DCMP2050A	Strategic Storytelling (استراتيجية رواية القصص)	DCMP2040A	-	3	2	3
	DCMP3005A	Documentary Production (إنتاج الأفلام الوثائقية)	DCMP2015	-	3	2	3
	DCMP3032	Human Computer Interaction in Media.	DCMP2025	-	3	2	3
	DCMP3050A	Immersive Technology & Concept Art (التكنولوجيا المتطورة والفن التصويري)	DCMP1001A DCMP2045A	-	3	2	3
				Semester 8 Total:	12	8	12
SEMESTER 9	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MRKT3105A	Marketing Content & Media Management (تسويق المحتوى وإدارة وسائل الإعلام)	MRKT1001	-	3	2	3
				Semester 9 Total:	6	4	6
				Year 3 Total:	**30**	**20**	**29**

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) (Arabic - English Track)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMM3010A	Research & Reporting (البحوث وإعداد التقارير)	COMM1020	-	3	3	0
	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DCMP4006	Sound Design & Audio Production	DCMP3021 OR DCMP3021A	-	3	2	3
	DCMP4015A	Video & Film Production (إنتاج الفيديو والأفلام)	DCMP3021A	-	3	2	3
				Semester 10 Total:	**12**	**8**	**12**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	DCMP4025	Digital & Alternative Media Production	DCMP3021 OR DCMP3021A	-	3	2	3
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	2	3
	Elective: Select 1 of 2						
	DCMP4040	Transmedia Production	Min 80 Credits	-	3	2	3
	DCMP4045	3D Modelling & Virtual Reality	DCMP2025	-	3	2	3
				Semester 11 Total:	**12**	**6**	**15**
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**33**	**14**	**27**
				B.Sc. DCMP (Arabic - English Track) Program Total:	**126**	**84**	**96**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program may choose to further specialize or pursue graduate studies in their area.

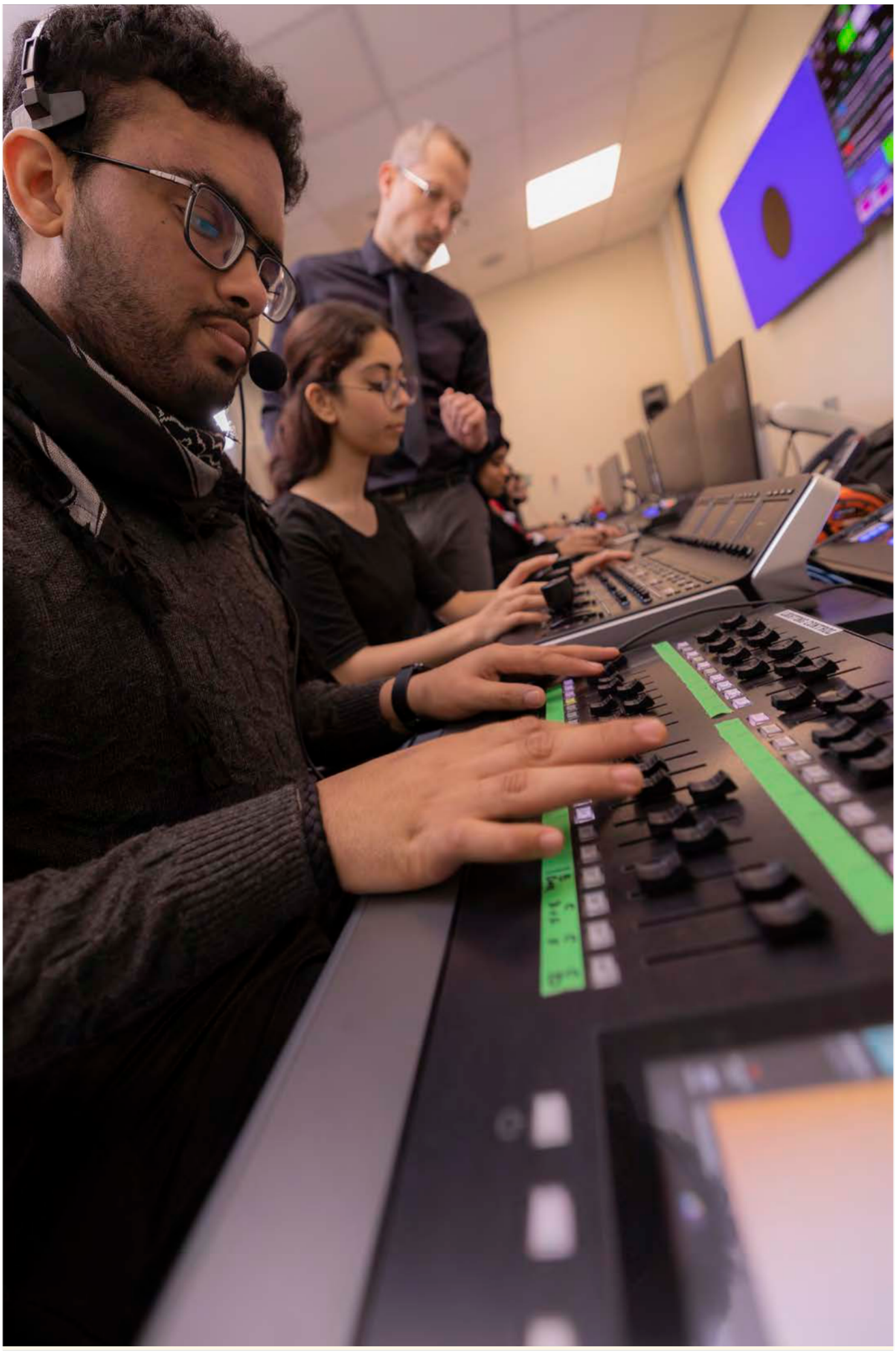
Graduate Career Opportunities:

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

Social Media Content Creator
- Social Media Coordinator
- Social Media Content Manager
- Communication Specialist
- Media Planner
- Transmedia Specialist
- Marketing Specialist
- Public Relations Manager
- Producer
- Journalist
- Radio Host
- Television Director
- Camera Operator
- Video Editor
- Live Video Mixer
- Sound Recordist
- Audio Engineer
- Documentary Producer
- Documentary Director
- Directing Assistant
- Director of Photography
- Camera Assistant
- Film Editor
- Film Colorist
- Sound Designer
- Grip & Electric Crew

Program Webpage:

Click Here



Bachelor of Science in Information Systems (B.Sc. IS)

Program Description:

The Bachelor of Science in Information Systems (B.Sc. IS) is a four-year program which provides students with the applied knowledge and skills needed for careers in the evolving field of information systems (IS). The program includes foundational information technology (IT) and IS courses, enabling program graduates to effectively contribute to the IT context in which IS are applied. The program prepares students to design, implement, and maintain advanced information system applications, mobile and web applications, or conduct database design and administration within an IT context. These skill sets, when consolidated through the completion of an industry work placement and a capstone project, prepare graduates for an exciting career in modern-day IS.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Information Systems (B.Sc. IS)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Information Systems (B.Sc. IS) program, graduates will be able to:

PEO01. Manage Information Technology environments
PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology and data protection
PEO03. Evaluate current and emerging safeguards to ensure the safety and authenticity of organizational data
PEO04. Provide added value to the organization through management, development, and implementation of innovative business solutions
PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Information Systems (B.Sc. IS) program, graduates will be prepared to:

SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
SLO03. Communicate effectively in a variety of professional contexts
SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
SLO06. Support the delivery, use, and management of information systems within an information systems environment

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 2 Total:	**14**	**12**	**6**
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
				Semester 3 Total:	**3**	**3**	**0**
				Year 1 Total:	**29**	**26**	**9**

Bachelor of Science in Information Systems (B.Sc. IS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 4 Total:	13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
				Semester 5 Total:	12	8	12
SEMESTER 6	SOFT2301	Software Project Management	Min 50 Credits	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	6	5	3
				Year 2 Total:	**31**	**23**	**25**

Bachelor of Science in Information Systems (B.Sc. IS)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	INFT2202	Linux Foundations	INFT2101	-	3	2	3
	INFS3103	Systems Analysis & Design	INFS2201	-	3	2	3
	INFS3104	Data Structures & Algorithms	(INFS3102 & DACS2101) OR (INFS3102 & INFT2102)	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**12**	**9**	**9**
SEMESTER 8	INFS3201	Web Technologies II	INFS2101 INFS2201 INFS3102	-	3	2	3
	INFS3202	IT Systems Integration	INFS3102 INFS3103	-	3	2	3
	INFS3203	Systems Deployment & Implementation	INFS3103	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
				Semester 8 Total:	**12**	**8**	**12**
SEMESTER 9	INFS3301	Human Computer Interaction	INFS1201	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	**6**	**5**	**3**
				Year 3 Total:	**30**	**22**	**24**

Bachelor of Science in Information Systems (B.Sc. IS)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	INFS4202	Software Testing & Quality Assurance	INFS3103	-	3	2	3
	INFS4104	Mobile App Technologies	INFS4103 OR (INFS3201 & INFS3301)	-	3	2	3
	Elective: Select 1 of 3						
	DACS4102	Web Security	INFS3201	-	3	2	3
	INFS4102	Desktop Application Development	INFS3102	-	3	2	3
	INFS4105	Advanced Database Management	INFS3201	-	3	2	3
				Semester 10 Total:	**12**	**7**	**15**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	9
	INFS4101	IS Management & Strategy	INFS3103	-	3	3	0
	Elective: Select 2 of 4						
	DACS3203	Secure Software Development	INFS3102	-	3	2	3
	DSAI3301	Data Analysis & Visualization	DSAI2201 MATH1040	-	3	2	3
	INFS4205	Selected Topics in Information Systems	INFS4104	-	3	2	3
	INFS4206	Native App Technologies	INFS4104	-	3	2	3
				Semester 11 Total:	**12**	**7**	**15**
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**33**	**14**	**30**
				B.Sc. IS Program Total:	**123**	**85**	**88**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Information Systems (B.Sc. IS) program may choose to further specialize or pursue graduate studies in their area.

Program Webpage:

Click Here

Graduate Career Opportunities:

The Bachelor of Science in Information Systems (B.Sc. IS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Application Programmer
- Computer Game Developer
- Computer Programmer
- Web Developer
- Multimedia Developer
- Programmer Analyst
- IS Designer
- IS Tester

Bachelor of Science in Information Technology (B.Sc. IT)

Program Description:

The Bachelor of Science in Information Technology (B.Sc. IT) is a four-year program which provides students with the applied knowledge and skills needed for careers in the field of information technology (IT). The program includes foundational IT courses, which enable graduates to contribute to the organizational context in which IT functions are performed. The interdisciplinary area of IT, which includes elements of hardware and software, focuses on how IT applications can be designed, operated, and maintained in support of business or institutional goals. The program prepares students to design, implement, and maintain advanced IT applications within business environments.
Theoretical knowledge is supported by the hands-on manipulation of physical and virtualized hardware offering students a solid understanding of IT applications design. These skill sets, when consolidated through the completion of an industry work placement and a capstone project, will prepare graduates for an exciting career in modern-day IT.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and and admission priority category.

Bachelor of Science in Information Technology (B.Sc. IT)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Information Technology (B.Sc. IT) program, graduates will be able to:

PEO01. Manage information technology computer resources and associated network infrastructure
PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology and data protection
PEO03. Evaluate current and emerging safeguards for use to ensure the safety and authenticity of an organizations data
PEO04. Provide added value to the organization through the management, development, and implementation of innovative business solutions
PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Information Technology (B.Sc. IT) program, graduates will be prepared to:

SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
SLO03. Communicate effectively in a variety of professional contexts
SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
SLO06. Use systemic approaches to select, develop, apply, integrate, and administer secure computing technologies to accomplish user goals

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	Effective and Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 1 Total:	**12**	**11**	**3**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 2 Total:	**14**	**12**	**6**
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
				Semester 3 Total:	**3**	**3**	**0**
				Year 1 Total:	**29**	**26**	**9**

Bachelor of Science in Information Technology (B.Sc. IT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
				Semester 4 Total:	**13**	**10**	**10**
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFT2202	Linux Foundations	INFT2101	-	3	2	3
				Semester 5 Total:	**12**	**8**	**12**
SEMESTER 6	SOFT2301	Software Project Management	Min 50 Credits	-	3	2	3
	Social Sciences, Humanities, and the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	**6**	**5**	**3**
				Year 2 Total:	**31**	**23**	**25**

Bachelor of Science in Information Technology (B.Sc. IT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	DSAI4104	Fundamentals of IoT	INFT2101	-	3	2	3
	INFT3101	Networking II	INFT2101	-	3	2	3
	INFT3102	Network Programming	INFS1201 INFT2202	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	12	9	9
SEMESTER 8	DACS3201	Network Security	INFT3101	-	3	2	3
	INFT3201	System Integration & Administration	INFT2101 INFT2202	-	3	2	3
	INFT3202	Cloud Computing	INFT2101 INFT2202	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
				Semester 8 Total:	12	8	12
SEMESTER 9	INFT3301	IT Service Management	INFS1101 INFT2101	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	6	5	3
				Year 3 Total:	**30**	**22**	**24**

Bachelor of Science in Information Technology (B.Sc. IT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	INFT4105	Wireless Networks	INFT3101	-	3	2	3
	INFT4107	Virtualization Technologies	INFT3101 INFT3102 INFT3202	-	3	2	3
	Elective: Select 1 of 3						
	DSAI4106	Embedded Systems & IoT	INFT2101	-	3	2	3
	INFT4106	Computer Network Protocols	INFT3101	-	3	2	3
	INFT4108	Cloud Automation & Orchestration	INFT3102 INFT3202 INFT3203	-	3	2	3
				Semester 10 Total:	**12**	**7**	**15**
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	9
	INFT4203	Network Management	INFT3101	-	3	2	3
	Elective: Select 2 of 5						
	DACS4204	Cloud Security	DACS3201	-	3	2	3
	INFT4103	Software Defined Networking	INFT3101 INFT3202 INFT3203	-	3	2	3
	INFT4104	Selected Topics in IT	INFT3101	-	3	2	3
	INFT4201	Enterprise Technology	INFT3201	-	3	2	3
	INFT4208	Governance & Management of IT	INFT3101	-	3	3	0
				Semester 11 Total:	**12**	**7**	**15**
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	360 Total HRs	
				Semester 12 Total:	**9**	**0**	**0**
				Year 4 Total:	**33**	**14**	**30**
				B.Sc. IT Program Total:	**123**	**85**	**88**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Information Technology (B.Sc. IT) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Information Technology (B.Sc. IT) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Information Technology Infrastructure Auditor
- Network Administration Manager
- Cloud Computing Architect
- Chief Technology Office (CTO)
- Website Administrator
- Network Infrastructure Solutions Analyst
- Network Implementation Specialist
- IT Division Director
- Computer Systems Support Manager

Program Webpage:

Click Here

Bachelor of Science in Software Engineering (B.Sc. SE)

Program Description:

The Bachelor of Science in Software Engineering Degree program (B.Sc. SE) provides students with the applied knowledge, skills, dispositions and competencies needed for careers in the field of Software Engineering.

This is a four-year Science degree that leads graduates into specific jobs within the dynamic field of Software Engineering. All students in this program study general courses in the domain of Computing Science and Systems requirements, which enables them to understand and contribute to the information technology and information systems context in which software engineering functions are performed.

The program prepares students to design, implement, and maintain advanced software solutions, mobile, web, and game development, perform software system testing within information technology and information system environments. These skill sets - when consolidated through the completion of two work-placements and a capstone project in addition to courses on software project management and entrepreneurship - prepare graduates for an exciting career in contemporary Software Engineering.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-Year Information Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Software Engineering (B.Sc. SE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Software Engineering (B.Sc. SE) program, graduates will be able to:

PEO01. Demonstrate software applications design, development, and maintenance in response to changing contextual conditions
PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practices in software management and governance, including software availability, reliability, safety, and security
PEO03. Evaluate current and emerging software engineering practices to ensure better use of software applications allowing businesses continuity, sustainability, and growth
PEO04. Support digital transformation through software applications and shape the future for the better by adhering to strict ethical principles
PEO05. Appraise information technology employees in terms of their performance and development needs
PEO06. Value the importance of lifelong learning, professional development, and ethical practices
PEO07. Apply best communication, teamwork, and collaboration practices among all software applications' development stakeholders

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Software Engineering (B.Sc. SE) program, graduates will be prepared to:

SLO01. Identify, formulate, and address complex software engineering problems by applying principles of software engineering, science, and mathematics
SLO02. Apply software engineering design to produce solutions that meet specified needs with consideration of global, cultural, social, environmental, and economic factors
SLO03. Communicate effectively with a range of audiences
SLO04. Recognize ethical and professional responsibilities in software engineering situations and make informed judgments, which must consider the impact of software engineering solutions in global, economic, environmental, and societal contexts
SLO05. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06. Develop and conduct appropriate experimentation and simulation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Software Engineering (B.Sc. SE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Introduction to Computing & Problem Solving	-	-	3	2	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**16**	**14**	**6**
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT2101	Networking I	INFT1201 OR Min 16 Credits	-	4	3	3
	MATH1050	Linear Algebra	-	-	3	3	1
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 2 Total:	**17**	**15**	**7**
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 3 Total:	**6**	**6**	**0**
				Year 1 Total:	**39**	**35**	**13**

Bachelor of Science in Software Engineering (B.Sc. SE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	DACS2101	Discrete Structures	INFS1101	-	3	2	3
	INFS2201	Database Management Systems	INFS1201	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
	SOFT2101	Software Engineering Principles	INFS1201	-	3	2	3
				Semester 4 Total:	**15**	**11**	**12**
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFS3103	Systems Analysis & Design	INFS2201	-	3	2	3
	INFS3104	Data Structures & Algorithms	(INFS3102 & DACS2101) OR (INFS3102 & INFT2102)	-	3	2	3
	MATH2020	Numerical Methods	MATH2010	-	3	3	1
				Semester 5 Total:	**15**	**11**	**13**
SEMESTER 6	SOFT2301	Software Project Management	Min 50 Credits	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 6 Total:	**6**	**5**	**3**
				Year 2 Total:	**36**	**27**	**28**

Bachelor of Science in Software Engineering (B.Sc. SE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS3201	Web Technologies II	INFS2101 INFS2201 INFS3102	-	3	2	3
	INFT2201	Introduction to Operating Systems	INFS1201 & (INFT1201 OR SOFT2301)	-	3	2	3
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
				Semester 7 Total:	15	12	9
SEMESTER 8	INFS3203	Systems Deployment & Implementation	INFS3103	-	3	2	3
	SOFT3201	Software Architecture & Design	INFS3103 INFS3201	-	3	2	3
	SOFT3202	Design Pattern & Modeling	INFS3102	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 2 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 8 Total:	15	12	9
SEMESTER 9	COMP3301	Work Placement I	SOFT2301	-	3	0	0
				Semester 9 Total:	3	0	0
				Year 3 Total:	33	24	18

Bachelor of Science in Software Engineering (B.Sc. SE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	INFS4202	Software Testing & Quality Assurance	INFS3103	-	3	2	3
	SOFT4102	Design Thinking for Software Entrepreneurship	INFS3102	-	3	2	3
	INFS4103	UI/UX Design	INFS3201	-	3	2	3
				Semester 10 Total:	12	7	15
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	9
	DACS3203	Secure Software Development	INFS3102	-	3	2	3
	INFS4101	IS Management & Strategy	INFS3103	-	3	3	0
	Elective: Select 1 of 2						
	INFS4104	Mobile App Technologies	INFS4103 OR (INFS3201 & INFS3301)	-	3	2	3
	SOFT4101	Game Engineering	INFS3201	-	3	2	3
				Semester 11 Total:	12	7	15
SEMESTER 12	COMP4302	Work Placement II	COMP4201	-	6	0	0
				Semester 12 Total:	6	0	0
				Year 4 Total:	30	14	30
				B.Sc. SE Program Total:	138	100	89

Graduate Future Pathways:

Graduates of the Bachelor of Science in Software Engineering (B.Sc. SE) degree program may choose to continue studies in their field or conduct research.

Program Webpage:

Click Here

Graduate Career Opportunities:

The Bachelor of Science in Software Engineering (B.Sc. SE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Software Analyst
- Software Engineer
- Systems Consultant
- Systems Designer
- Software Tester
- Application Architect
- Automation Engineer - Software
- Backend Engineer
- Cloud Administrator
- Cloud Architect
- Cloud Engineer
- Computer Applications Engineer

Master's Programs

Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC)

Program Description:

The Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC) is a dynamic, two-year postgraduate program designed to equip students with the essential knowledge and skills for a successful career in the rapidly evolving fields of Artificial Intelligence (AI), Cybersecurity, and Cognitive Computing. This program blends core courses in AI, cybersecurity, and cognitive computing, providing a comprehensive understanding and integration of these three critical domains. Students gain the ability to counter complex cyber risks and threats through a deep understanding of AI theories, advanced security principles, and innovative practices.

Key features of the program include an interdisciplinary core curriculum, specialization tracks, practical application and theory, professional development, and preparation for the future. Upon completion, graduates possess a unique combination of skills, ready to address the challenges of AI and cognitive cybersecurity in various roles across industries. This program is not just a pathway to a career; it is a gateway to becoming a leader in a field that is at the forefront of technological advancement and essential for the cybersecurity of today's digital world.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor degree in Computing from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale. In addition, bridging courses may be required; OR
2. Bachelor degree in an unrelated field of study from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale. In addition, bridging courses may be required; OR
3. Bachelor degree from an accredited higher education institution with GPA above 2.0 and below 3.0 on a 4.0 scale, with a minimum of five years' work experience in a related field. In addition, bridging courses may be required.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Mathematics Requirement:

1. Applicants are expected to have a proficient understanding of calculus, linear algebra, probability, and statistics at the undergraduate level.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, and
2. Where applicable, employment certificate from current employer indicating minimum full-time employment experience in years; and
3. A satisfactory performance in the personal interview with the Admissions Committee.

Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC) program, graduates will be able to:

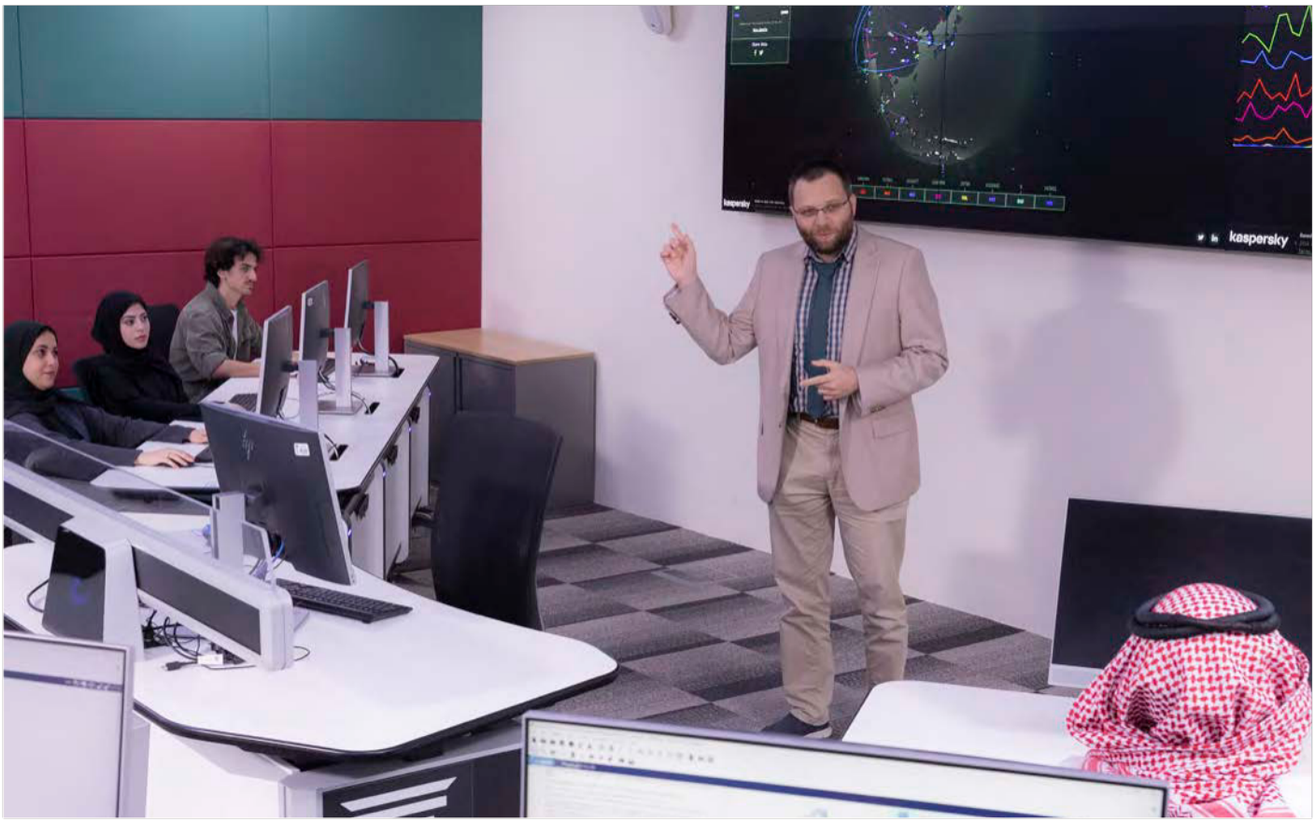
PEO01. Leverage current and emerging developments in AI to design and deploy a resilient and sustainable cognitive security strategy capable of responding effectively to changing contextual conditions, including current threats and risks, and emerging challenges
PEO02. Develop and implement appropriate policies and procedures to guide strategic decision making, with operational adherence to best practices of AI and cybersecurity governance, compliant with local and international regulations and standards
PEO03. Apply the highest ethical and legal standards in AI and cybersecurity, to make informed decisions that consider the broader implications on economy, environment, and society
PEO04. Exhibit leadership and collaborative skills in interdisciplinary teams, driving innovation and continuous learning in AI and cybersecurity initiatives
PEO05. Evaluate current and emerging AI and cybersecurity best practices to ensure the efficiency, security, sustainability, growth, and continuity of operations within an organization, especially in environments characterized by diverse risks and threats
PEO06. Engage in lifelong learning, professional development, and ethical practices within the disciplines of AI and Cybersecurity

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC) program, graduates will be prepared to:

SLO01. Evaluate AI theory and techniques for use in the design, implementation, and deployment of solutions to complex problems
SLO02. Incorporate advanced security principles and practices to maintain operations in the presence of risks and threats
SLO03. Apply advanced AI-based solutions to enhance the security of information and connected systems within an organization in the presence of complex risks and threats
SLO04. Recommend AI and cybersecurity policies, best practices, and technical solutions in an organizational context to guide and influence strategic decisions
SLO05. Demonstrate ethical leadership and professional responsibilities in the disciplines of AI and cybersecurity, while considering the impact on the economy, environment, and society
SLO06. Function effectively as a member or a leader of a team engaged in AI-based and cognitive cybersecurity activities



Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AICC5101	Theories of Computing	-	-	3	3	2
	AICC5102	Principles of AI	-	-	3	2	3
	AICC5103	Principles of Cybersecurity	-	-	3	2	3
				Semester 1 Total:	9	7	8
SEMESTER 2	AICC5201	Machine Learning & Deep Learning	AICC5102	-	3	2	3
	AICC5202	Cognitive Computing	AICC5102	-	3	2	3
	AICC5203	Cybersecurity Attacks & Defenses	AICC5101 & AICC5103	-	3	2	3
	AICC5204	Research Methods & Professional Development	-	-	3	3	0
				Semester 2 Total:	12	9	9
				Year 1 Total:	**21**	**16**	**17**

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	AICC6101	Cognitive Cybersecurity	AICC5201 & AICC5203	-	3	2	3
	AICC6102	AI Systems Engineering	AICC5202	-	3	2	3
	AICC6103	Computing Seminar	AICC5204	-	1	1	0
	Research or Professional Track: Select 1 of 2						
	AICC6104	Computing Research Thesis Project I	AICC5204	-	3	0	9
	AICC6110	Selected Topics for Computing Graduation Project	AICC5202	-	3	3	0
				Semester 3 Total (Research Track):	10	5	15
				Semester 3 Total (Professional Track):	10	8	6
SEMESTER 4	**Research or Professional Track: Select 1 of 2**						
	AICC6204	Computing Research Thesis Project II	AICC5204 & AICC6104	-	3	0	9
	AICC6210	Computing Graduation Project	AICC5204 & AICC6110	-	3	0	9
				Semester 4 Total (Research Track):	3	0	9
				Semester 4 Total (Professional Track):	3	0	9
				Year 2 Total (Research Track):	13	5	24
				Year 2 Total (Professional Track):	13	8	15
				M.Sc. AICC Program Total (Research Track):	**34**	**21**	**41**
				M.Sc. AICC Program Total (Professional Track):	**34**	**24**	**32**

Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC)

Graduate Future Pathways:

Graduates of the Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC) program may choose to engage in advanced research and development through a Doctorate degree in their area of specialization. They may also engage in policy development and regulation, cooperate leadership and strategy, international development and global security, and entrepreneurship in cutting-edge technologies in AI and cybersecurity.

Graduate Career Opportunities:

The Master of Science in Artificial Intelligence and Cognitive Cybersecurity (M.Sc. AICC) program is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- AI Specialist in Cybersecurity
- AI Specialist in Incident Response
- AI Specialist in Vulnerability Assessment
- AI Specialist in Cryptography
- AI Specialist as an Information Security Officer
- AI Specialist as a Security Manager
- AI Specialist as a Computer Forensic Investigator
- AI Specialist in Threat Intelligence
- AI Specialist in Regulatory Compliance
- AI Specialist in Risk Analysis and Management

Program Webpage:

Click Here

College of Engineering and Technology (CET)

Engineers, Engineering Technologists, and Engineering Technicians persistently strive to improve the quality of human lives through innovations, developments, and improvements. They are continuously engaged in solving problems by applying creative thinking and systematic reasoning in a sustainable manner.

Learning in state-of-the-art facilities, with experienced faculty members, and solid program curricula, Graduates acquire the knowledge, skills, and competencies required to excel in the job market from day one of their employment. In addition to the essential engineering sciences, the programs at the College of Engineering and Technology (CET) involve practical applied courses delivered in on-campus industrial settings such as industrial pilot plants, laboratories, and workshops, which employ the latest technologies. CET program students build practical skills, theoretical knowledge and competencies to become distinctive assets to any future employer.

Experienced world class teaching staff equipped with educational and hands-on industrial experience guide students throughout their learning journey. CET programs shape the future of graduate engineers, technologists, and technicians to become future community leaders.

CET's engineering programs serve the increasing demand of a growing economy within the State of Qatar. CET Programs are designed to serve the local, regional, and international need for skilled Engineers, Technologists, and Technicians.

كلية الهندسة والتكنولوجيا
College of
Engineering & Technology

جامعة الدوحة للعلوم والتكنولوجيا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY

Diploma Programs

Diploma in Automation and Control Engineering Technology (Dip. ACET)

Program Description:

The Diploma in Automation and Control Engineering Technology (Dip. ACET) is an applied two year-program which provides students with the skills and knowledge necessary to become competent and effective members of engineering teams comprised of engineers, technologists, technicians and tradespersons. The program enables students to earn technical knowledge of the operation of automation and control systems. In addition, students develop hands-on skills in the installation, trouble shooting, analysis, repair and maintenance of a variety of these systems, including microprocessor-based process field instrumentation and programmable control systems.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Automation and Control Engineering Technology (Dip. ACET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Automation and Control Engineering Technology (Dip. ACET) program, graduates will be able to:

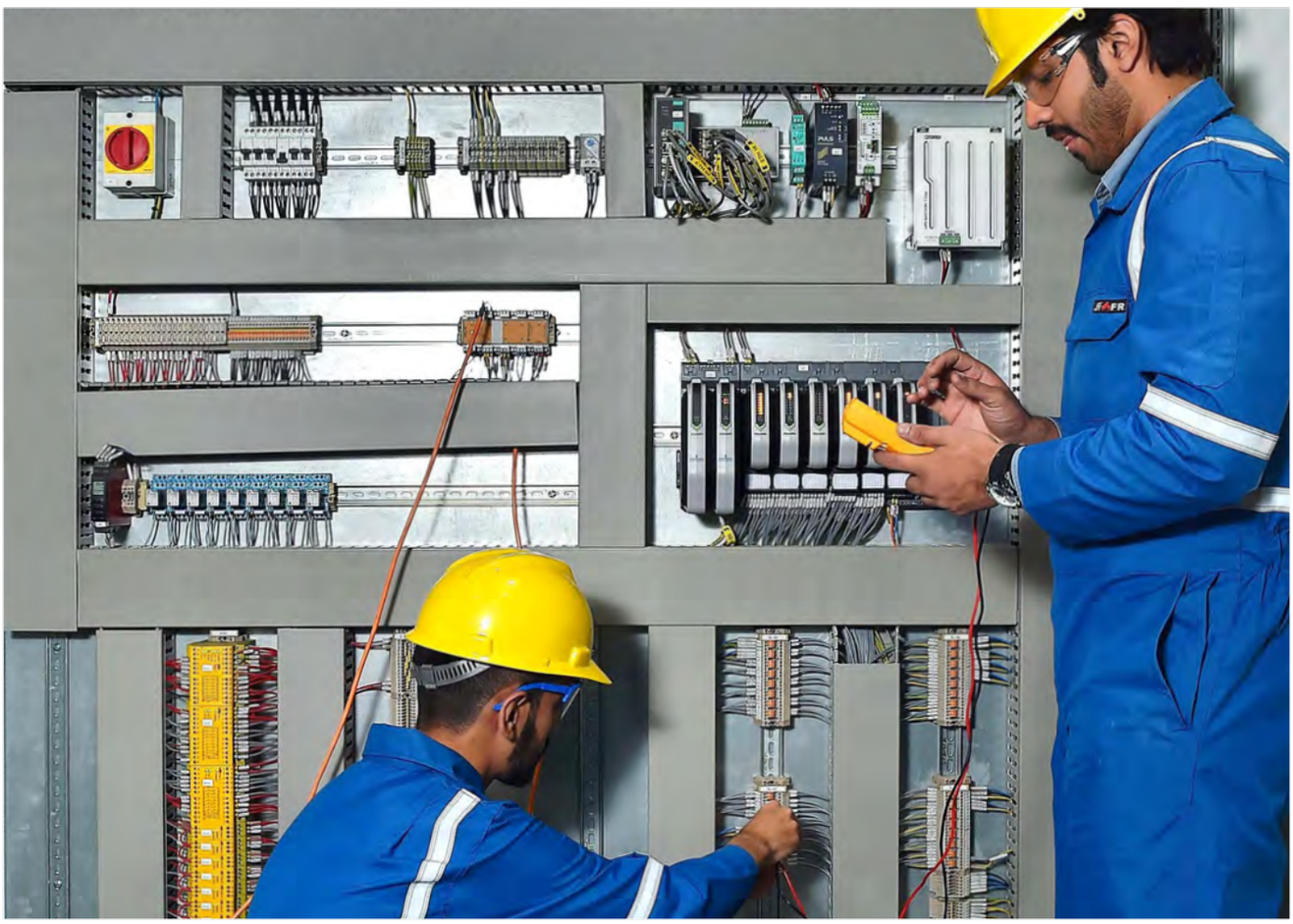
PEO01a. Contribute to problem-solving in automation and system control-related environments and activities
PEO02a. Display efficient writing and oral communication skills in Automation and Control Engineering
PEO03a. Exhibit knowledge in the automation and system control engineering standards and ethical values in addressing problems related to the practice of the profession
PEO04a. Recognize the importance of professional development and continued learning and will engage in discipline-specific organizations that foster these opportunities

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Automation and Control Engineering Technology (Dip. ACET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined automation and control system problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of automation and control systems and equipment



Diploma in Automation and Control Engineering Technology (Dip. ACET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	7	3	8
				Year 1 Total:	43	33	24

Diploma in Automation and Control Engineering Technology (Dip. ACET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
				Semester 4 Total:	12	9	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
				Semester 5 Total:	13	9	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
				Semester 6 Total:	6	4	5
				Year 2 Total:	**31**	**22**	**21**
				Dip. ACET Program Total:	**74**	**55**	**45**

Graduate Future Pathways:

Graduates of the Diploma in Automation and Control Engineering Technology (Dip. ACET) program may choose to continue their studies and complete the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) or the Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering (B.Sc. EE-ACSE) degree.

Graduate Career Opportunities:

The Diploma in Automation and Control Engineering Technology (Dip. ACET) is an applied program with learning outcomes closely linked to the labor market.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- PLC Programmer
- Automation and Control Operator
- Instrumentation Technician
- Process Control Technician
- Automation Technician
- Controls Technician
- Hardware Engineering Support

Program Webpage.

Click Here

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Program Description:

The Diploma in Chemical and Processing Engineering Technology (Dip. CPET) is an applied two-year program which provides students with the knowledge and competencies needed to start a career in chemical and processing engineering. Through hands-on learning, in state-of-the art laboratories and machine shops, students develop the knowledge and technical skills to install, operate, maintain, and troubleshoot chemical equipment, units and processes.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program, graduates will be able to:

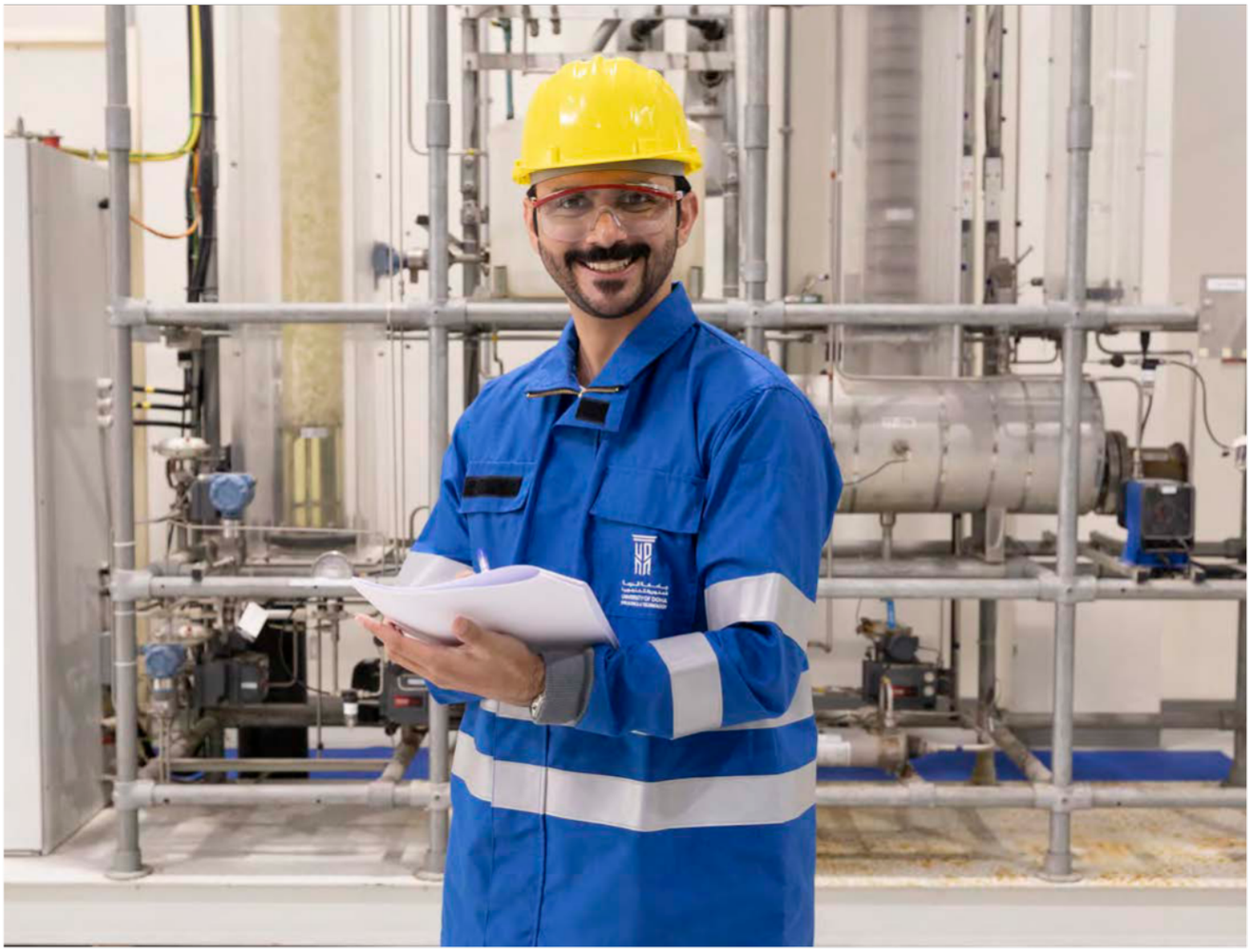
PEO01a. Contribute to problem solving in chemical processing related industries and activities
PEO02a. Distinguish themselves as effective communicators and team members in their profession
PEO03a. Model ethical and professional attitudes and behavior
PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined chemical engineering problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of chemical processes



Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	10
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	15	11	10
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	6	4	4
				Year 1 Total:	39	30	24

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 PHYS1020 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
				Semester 4 Total:	13	9	11
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111	-	2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020 OR AMPII Score of 85%	-	2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
				Semester 5 Total:	12	10	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
				Semester 6 Total:	7	7	0
				Year 2 Total:	**32**	**26**	**16**
				Dip. CPET Program Total:	**71**	**56**	**40**

Graduate Future Pathways:

Graduates of the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program may choose to continue their studies and complete the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) or the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) degree.

Graduate Career Opportunities:

The Diploma in Chemical and Processing Engineering Technology (Dip. CPET) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chemical Operator
- Chemical Technician
- Control System Technician
- Utility Operator
- Treatment Technician
- Technician in Product Development

Program Webpage:

Click Here

Diploma in Construction Engineering Technology (Dip. CET)

Program Description:

The Diploma in Construction Engineering Technology (Dip. CET) is an applied two-year program which provides students with the knowledge and competencies needed to start a career in construction industry. Specific areas of study include: documentation, estimation, interpretation, building methods and safety. Through hands-on learning, in state-of-the art laboratories and machine shops, students develop the knowledge and technical skills to construct and maintain structures and infrastructures.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Construction Engineering Technology (Dip. CET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Construction Engineering Technology (Dip. CET) program, graduates will be able to:

PEO01a. Contribute to problem solving in construction engineering environments and activities
PEO02a. Communicate and collaborate successfully, individually and within a team, in both professional and social settings
PEO03a. Consider legal, ethical, and social implications related to the practice of construction engineering
PEO04a. Engage in professional development, while applying principles of continuous learning to adapt to new engineering technologies and career challenges

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of Diploma in Construction Engineering Technology (Dip. CET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined construction engineering problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of construction processes

Diploma in Construction Engineering Technology (Dip. CET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**14**	**12**	**7**
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**18**	**16**	**6**
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**8**	**4**	**8**
				Year 1 Total:	**40**	**32**	**21**

Diploma in Construction Engineering Technology (Dip. CET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AEMA1312 AECE1200	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020 OR AMPII Score of 85%	-	2	2	0
	AECE2120	Statics	MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
				Semester 4 Total:	12	10	6
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
				Semester 5 Total:	14	12	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 6 Total:	5	3	5
				Year 2 Total:	**31**	**25**	**16**
				Dip. CET Program Total:	**71**	**57**	**37**

Graduate Future Pathways:

Graduates of the Diploma in Construction Engineering Technology (Dip. CET) program may choose to continue their studies and complete the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) or the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree.

Graduate Career Opportunities:

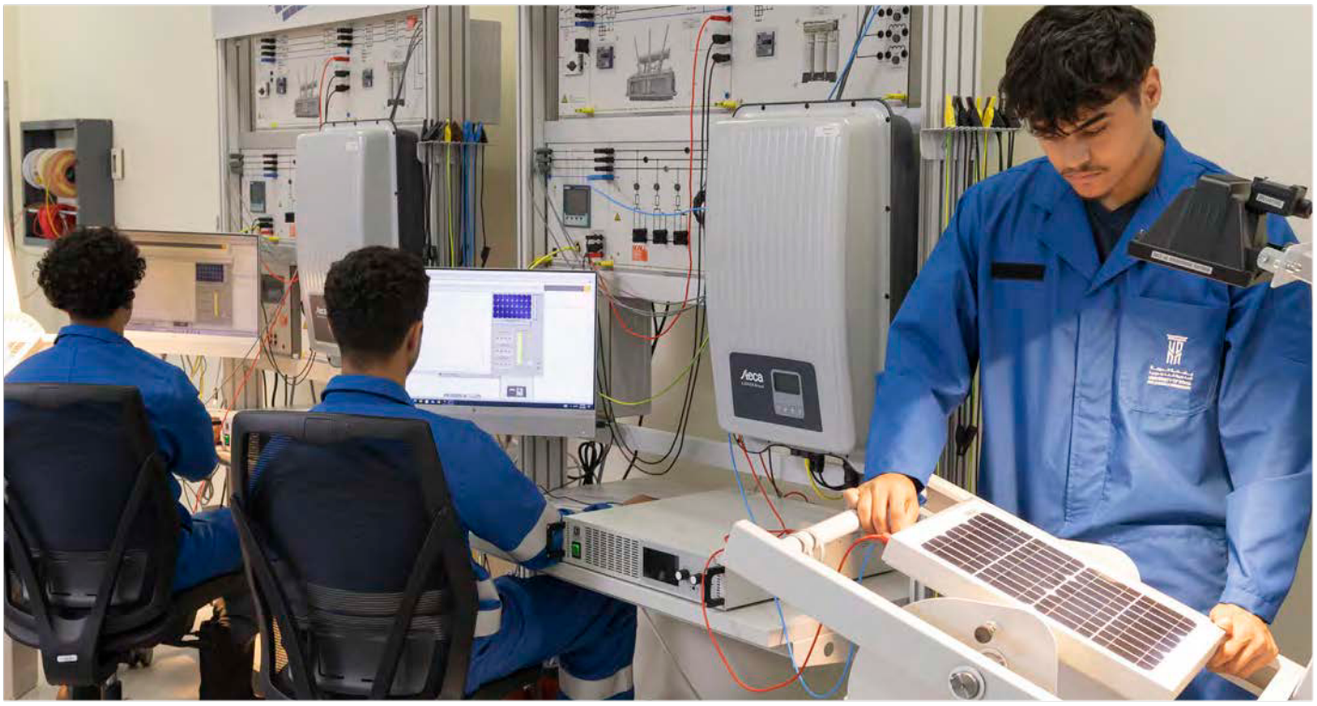
The Diploma in Construction Engineering Technology (Dip. CET) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Construction Surveyor
- Quality Assurance Building Assessor
- Quality Officer
- Project Officer
- Document Controller
- Construction Foreman

Program Webpage:

Click Here

Diploma in Electrical Power Engineering Technology (Dip. EPET)



Program Description:

The Diploma in Electrical Power Engineering Technology (Dip. EPET) is an applied two-year program which provides students with skills and knowledge necessary to become competent and effective members of an electrical engineering team. The program will enable the students to earn technical knowledge and skills in the design, construction, installation, application, operation, maintenance and troubleshooting of electrical power systems with a focus on utility, large industry, institutional and commercial facilities. The Dip. EPET stresses the application of fundamental electrical power knowledge in operation, construction, application, installation, maintenance and troubleshooting tasks.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Electrical Power Engineering Technology (Dip. EPET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Electrical Power Engineering Technology (Dip. EPET) program, graduates will be able to:

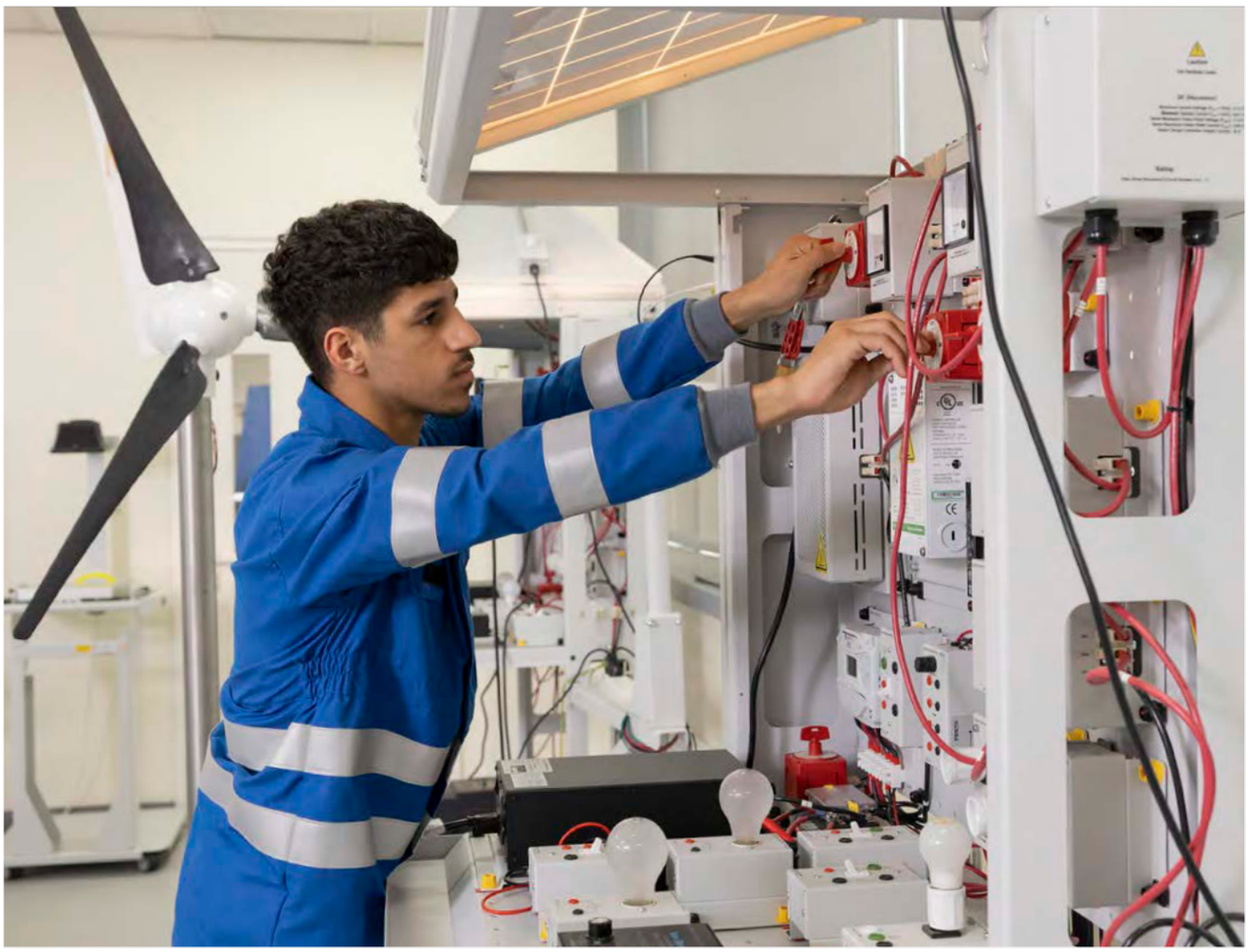
PEO01a. Contribute to problem solving in electrical power related issues and activities
PEO02a. Distinguish themselves as effective communicators and team members in their profession
PEO03a. Model ethical and professional attitudes and behavior
PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Electrical Power Engineering Technology (Dip. EPET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined electrical power problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of electrical power systems and processes



Diploma in Electrical Power Engineering Technology (Dip. EPET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	7	3	8
				Year 1 Total:	**43**	**33**	**24**

Diploma in Electrical Power Engineering Technology (Dip. EPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry Lab I	-	CHEM1010	1	0	3
				Semester 4 Total:	14	10	9
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
				Semester 5 Total:	12	8	10
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2113	HV Equipment Testing & Maintenance	AEEP2111	-	2	2	0
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
				Semester 6 Total:	6	4	4
				Year 2 Total:	**32**	**22**	**23**
				Dip. EPET Program Total:	**75**	**55**	**47**

Graduate Future Pathways:

Graduates of the Diploma in Electrical Power Engineering Technology (Dip. EPET) program may choose to continue their studies and complete the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) or the Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) degree.

Graduate Career Opportunities:

The Diploma in Electrical Power Engineering Technology (Dip. EPET) is an applied program with learning outcomes closely linked to the labor market.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Electrical Technician
- Plant Operator
- Design Assistant
- Electrical Power Transmission Engineering Technician
- Electrical Power Generation Technician
- Industrial/Commercial/Residential Electrician

Program Webpage:

Click Here

Diploma in Mechanical Engineering Technology (Dip. MET)

Program Description:

The Diploma in Mechanical Engineering Technology (Dip. MET) is an applied two-year program which provides students with the technical knowledge and hands-on skills needed to start a career in mechanical engineering. Specific areas of study include: rotating equipment, pumps, piping systems, hydraulics, pneumatics, preventive maintenance and non-destructive testing. Through hands-on learning in state-of-the art laboratories and machine shops, students develop the knowledge and technical skills required to install, operate, and maintain mechanical systems.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0 OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test OR
2. A valid SAT Report Form with minimum score of 480 OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and and admission priority category.

Diploma in Mechanical Engineering Technology (Dip. MET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Mechanical Engineering Technology (Dip. MET) program, graduates will be able to:

PEO01a. Contribute to problem solving in mechanical related environments and activities
PEO02a. Distinguish themselves as effective communicators and team members in their profession
PEO03a. Model ethical and professional attitudes and behavior
PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Mechanical Engineering Technology (Dip. MET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined mechanical engineering problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of mechanical systems and processes

Diploma in Mechanical Engineering Technology (Dip. MET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**10**
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**16**	**13**	**7**
SEMESTER 3	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**9**
				Year 1 Total:	**41**	**31**	**26**

Diploma in Mechanical Engineering Technology (Dip. MET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2131	Industrial Maintenance Mechanics	-	-	2	2	0
	AEMA2231	Industrial Maintenance Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
				Semester 4 Total:	13	9	10
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
				Semester 5 Total:	12	9	7
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
				Semester 6 Total	6	4	4
				Year 2 Total:	**31**	**22**	**21**
				Dip. MET Program Total:	**72**	**53**	**47**

Diploma in Mechanical Engineering Technology (Dip. MET)

Graduate Future Pathways:

Graduates of the Diploma in Mechanical Engineering Technology (Dip. MET) program may choose to continue their studies and complete the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) or the Bachelor of Science in Mechanical Engineering -Maintenance Engineering (B.Sc. ME-MaE) degree.

Graduate Career Opportunities:

The Diploma in Mechanical Engineering Technology (Dip. MET) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Mechanical Engineering Technician
- Manufacturing Engineering Technician
- Maintenance Technologist
- Maintenance Technician
- Telecom Technician
- Service Install Technician

Program Webpage:

Click Here

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Program Description:

The Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) is an applied two-year program which provides students with the knowledge and competencies needed to start a career in the telecommunications and networking industry. Through hands-on learning, in state-of-the art laboratories and machine shops, students develop the knowledge and technical skills required to operate, maintain and configure telecommunications devices or components, systems and equipment, in a variety of network environments and distribution centers.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program, graduates will be able to:

PEO01a. Contribute to problem solving in telecommunication, networking and related industries and activities
PEO02a. Distinguish themselves as effective communicators and team members in their profession
PEO03a. Model ethical and professional attitudes and behavior
PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program, graduates will be prepared to:

SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined telecommunication and network engineering problems
SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05a. Function effectively as a member of a technical team
SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of network and communication processes

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 3 Total:	7	5	4
				Year 1 Total:	**43**	**35**	**20**

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102 AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2121	Analog & Digital Communication	AEEL1102 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
				Semester 4 Total:	14	9	11
SEMESTER 5	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2111	AETN2212	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2211	AETN2112	1	0	3
	AETN2122	Wireless Communication Systems	AETN2121	-	3	3	0
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	2
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 5 Total:	13	9	10
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
				Semester 6 Total:	4	2	6
				Year 2 Total:	31	20	27
				Dip. TNET Program Total:	74	55	47

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Graduate Future Pathways:

Graduates of the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program may choose to continue their studies and complete the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) or the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree.

Graduate Career Opportunities:

The Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Network Technician
- Network Support Technician
- Telecommunication Technician
- Field Service Technician
- Telecom Technician
- Service Install Technician

Program Webpage:

Click Here

Advanced Diploma Programs

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Program Description:

The Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) is an applied program which provides students with the skills and knowledge necessary to become competent and effective members of an engineering team comprised of engineers, technologists, technicians, and tradespersons. The program enables students to earn strong technical knowledge of the design and operation of automation and control systems and hands-on skills in the repair and maintenance of a variety of these systems, including microprocessor-based process field instrumentation and programmable control systems. The advanced diploma stresses fundamental knowledge in the installation, trouble shooting, design, analysis and maintenance of automation and control systems.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Automation and Control Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program, graduates will be able to:

PEO01ad. Demonstrate strong problem-solving capabilities in automation and control-related industries and activities
PEO02ad. Distinguish themselves as effective communicators, team members, and team leaders in their profession
PEO03ad. Model ethical and professional attitudes and behavior
PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined automation and control system problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of automation and control systems and equipment

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	7	3	8
				Year 1 Total:	43	33	24

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	15	12	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	16	12	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
				Semester 6 Total:	6	4	5
				Year 2 Total:	**37**	**28**	**21**

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEAC3101	System Automation & Embedded Systems	AEEP2301	-	3	3	0
	AEAC3201	System Automation & Embedded Systems (Lab)	AEEP2301	AEAC3101	1	0	2
	AEAC3111	Process Control Applications	AEAC2103	-	2	2	0
	AEAC3211	Process Control Applications (Lab)	AEAC2203	AEAC3111	1	0	2
	AEAC3321	Technology Capstone Project I	Min 71 Credits	-	0	1	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 7 Total:	16	15	6
SEMESTER 8	AEAC3122	Industrial Process Analysis	AEAC2101	-	2	2	0
	AEAC3222	Industrial Process Analysis (Lab)	AEAC2201	AEAC3122	1	0	2
	AEAC3102	Safety Shutdown & Instrumented Systems	AEAC3111	-	2	2	0
	AEAC3202	Safety Shutdown & Instrumented Systems (Lab)	AEAC3211	AEAC3102	1	0	2
	AEAC3112	DCS & SCADA	AEAC2113	-	3	3	0
	AEAC3212	DCS & SCADA (Lab)	AEAC2213	AEAC3112	1	0	3
	AEAC3332	Technology Capstone Project II	AEAC3321	-	3	3	0
				Semester 8 Total:	13	10	7
				Year 3 Total:	**29**	**25**	**13**
				Adv. Dip. ACET Program Total:	**109**	**86**	**58**

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering - Automation Control and Systems Engineering (B.Sc. EE-ACSE) degree.

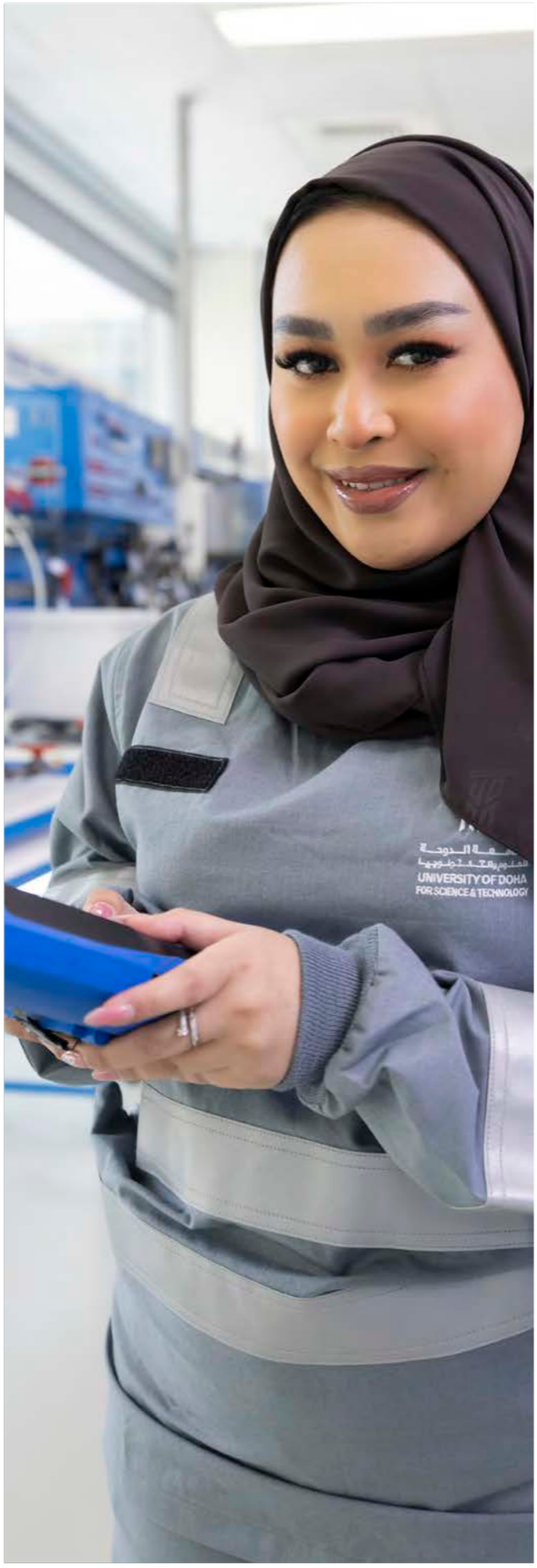
Graduate Career Opportunities:

The Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) is an applied three-year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and these include, but are not limited to, the following:

- Associate Automation and Control Engineer
- PLC Programmer/Systems Associate
- Automation Technologist
- Control Engineering Technologist
- Instrumentation and Control Technician
- Automation and Instrumentation Maintenance Coordinator

Program Webpage:

Click Here



Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Program Description:

The Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) is an applied program which provides students with the knowledge, skills, and competencies needed for a career in chemical industries. Through the program students develop skills to install, operate, maintain, and troubleshoot chemical processes. Through experiential learning students engage in hands-on skill development in the operation and troubleshooting of chemical equipment, units, and processes.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two–year Chemical Processing Engineering Techology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program, graduates will be able to:

PEO01ad. Contribute to problem solving in industries and activities appropriate to the discipline
PEO02ad. Distinguish themselves as effective communicators and team members in their profession
PEO03ad. Model ethical and professional attitudes and behavior
PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined chemical problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of chemical processes

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**10**
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201		3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**15**	**11**	**10**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**6**	**4**	**4**
				Year 1 Total:	**39**	**30**	**24**

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 PHYS1020 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	16	12	11
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111		2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020 OR AMPII Score of 85%		2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	15	13	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
				Semester 6 Total:	7	7	0
				Year 2 Total:	38	32	16

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECH3132	Chemical Reaction Engineering	AECH2122 MATH2010	-	3	3	0
	AECH3101	Applied Fluid Mechanics	AECH2142	-	3	3	0
	AECH3321	Process Unit Design	AECH2122	-	4	3	2
	AECH3331	Technology Capstone I	AECH2142	-	0	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	13	12	4
SEMESTER 8	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AECH3332	Technology Capstone II	AECH3331	-	3	3	0
	AECH4221	Chemical Reaction Engineering (Lab)	AECH3132	-	1	0	3
	AECH4232	Materials & Corrosion	CHEM3010	-	4	4	0
	AEMA3142	Applied Heat Transfer	AECH2142	-	3	3	0
				Semester 8 Total:	14	12	5
SEMESTER 9	AECH3222	Fluid Mechanics & Heat Transfer (Lab)	AECH3101 AEMA3142	-	1	0	3
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 9 Total:	4	1	8
				Year 3 Total:	31	25	17
				Adv. Dip. CPET Program Total:	108	87	57

Graduate Future Pathways:

Graduates of the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program may choose to continue their studies and complete the Bachelor of Science in Chemical Engineering – Chemical and Processing Engineering (B.Sc. CE-PE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Chemical and Processing Engineering (Adv. Dip. CPET) is an applied three-year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chemical Engineering Technologist
- Chemical Engineering Research & Development Technician
- Refinery Process Technologist
- Quality Control Technologist
- Chemical Operation Technician
- Production Technologist

Program Webpage:

Click Here

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Program Description:

The Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) is an applied program which provides students with the knowledge, skills and competencies needed for a career in the construction industry. Through the program students develop skills to install, operate, test and maintain processes in a construction environment. Students engage in hands-on experiential learning through the operation of equipment in a state-of-the art laboratory and machine shop environment.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two–year Construction Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program, graduates will be able to:

PEO01ad. Demonstrate strong problem-solving capabilities in automation and control-related industries and activities
PEO02ad. Distinguish themselves as effective communicators, team members, and team leaders in their profession
PEO03ad. Model ethical and professional attitudes and behavior
PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined construction problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of chemical processes

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**14**	**12**	**7**
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**18**	**16**	**6**
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	(AEEL1100 & AEEL1200) OR (AEEL1101 & AEEL1201)	-	2	0	4
				Semester 3 Total:	**8**	**4**	**8**
				Year 1 Total:	**40**	**32**	**21**

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AEMA1312 AECE1200	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020 OR AMPII Score of 85%	-	2	2	0
	AECE2120	Statics	MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	**15**	**13**	**6**
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	**17**	**15**	**5**
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 6 Total:	**5**	**3**	**5**
				Year 2 Total:	**37**	**31**	**16**

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECE3100	Soil Mechanics	AECE2210 AECE2230	-	3	3	0
	AECE3101	Soil Mechanics (Lab)	-	AECE3100	1	0	3
	AECE3120	Construction Planning & Scheduling	AECE1200 AECE1230 AECE2220	-	3	3	0
	AECE3321	Technology Capstone Project I	AECE2230	RSST3001 OR RSST3002	0	0	2
	AEMA3121	Applied Fluid Mechanics	MATH1030 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 7 Total:	16	14	7
SEMESTER 8	AECE3210	Construction Cost Estimation	AECE1200 AECE1230 AECE2220	-	3	3	0
	AECE3332	Technology Capstone Project II	AECE3321	-	3	3	9
	AECE3220	Built-Facility Maintenance & Repair	AECE2100 AECE2230	AECE3230	3	3	0
	AECE3230	Structural Engineering	AECE2230 MATH2010	-	3	3	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
				Semester 8 Total:	17	17	9
				Year 3 Total:	**33**	**31**	**16**
				Adv. Dip. CET Program Total:	**110**	**94**	**53**

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program may choose to continue their studies and complete the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) is an applied three-year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Construction Engineering Technologist
- Construction Supervisor
- Junior Construction Process Designer
- Project Superintendent
- Engineering Asset Officer
- Junior Construction Cost Estimator

Program Webpage:

Click Here

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)

Program Description:

The Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) is an applied program which provides students with skills and knowledge necessary to become competent and effective members of an electrical engineering team. The program enables students to earn technical knowledge and skills in design, construction, installation, application, operation, maintenance and troubleshooting of electrical power systems with a focus on power utility, large industry, institutional and commercial facilities, and renewable energy sources. Students engage in hands-on experiential learning through the operation of equipment in state-of-the art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Electrical Power Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program, graduates will be able to:

PEO01ad. Contribute to problem solving in electrical power and renewable energy related industries and activities
PEO02ad. Distinguish themselves as effective communicators and team members in their profession
PEO03ad. Model ethical and professional attitudes and behavior
PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined electrical power problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of electrical power systems and processes

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	7	3	8
				Year 1 Total:	43	33	24

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv.Dip. EPREET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	**17**	**13**	**9**
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	**15**	**11**	**10**
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2113	HV Equipment Testing & Maintenance	AEEP2111	-	2	2	0
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
				Semester 6 Total:	**6**	**4**	**4**
				Year 2 Total:	**38**	**28**	**23**

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv.Dip. EPREET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
	AEEP3101	Introduction to Embedded Systems	AEEP2301	-	2	2	0
	AEEP3201	Introduction to Embedded Systems (Lab)	AEEP2301	AEEP3101	2	0	6
	AEEP3111	Power Systems II	AEEP2102	-	3	3	0
	AEEP3211	Power Systems II (Lab)	AEEP2202	AEEP3111	1	0	2
	AEEP3321	Technology Capstone Project I	Min 71 Credits	-	0	1	2
				Semester 7 Total:	**14**	**11**	**13**
SEMESTER 8	AEEP3102	Power Electronics	AEEP2122 AETN2101	-	3	3	0
	AEEP3202	Power Electronics (Lab)	AEEP2222 AETN2201	AEEP3102	1	0	2
	AEEP3122	Renewable Energy Conversion I	AECH2112	-	3	3	0
	AEEP3222	Renewable Energy Conversion I (Lab)	AECH2112	AEEP3122	1	0	2
	AEEP3312	Technology Capstone Project II	AEEP3321	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 8 Total:	**14**	**12**	**4**
				Year 3 Total:	**28**	**23**	**17**
				Adv. Dip. EPREET Program Total:	**109**	**84**	**64**

Graduate Future Pathways:

Graduates of the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering -Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) is an applied-three year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Associate Electrical Engineer
- Sustainable Energy Technologist
- Utility Specialist
- Electrical System Technologist
- Junior Renewable Energy Engineer
- Electrical Technologist

Program Webpage:

Click Here

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Program Description:

The Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) is an applied program which provides students with the knowledge, skills and competencies needed for a career in maintenance engineering. Through the program, students develop the knowledge and technical skills required to install, operate, and maintain mechanical systems. Students engage in hands-on experiential learning through the operation of equipment in state-of-the art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Mechanical Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program, graduates will be able to:

PEO01ad: Contribute to problem solving in industries and activities appropriate to the discipline
PEO02ad: Distinguish themselves as effective communicators and team members in their profession
PEO03ad: Model ethical and professional attitudes and behavior
PEO04ad: Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined mechanical engineering problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of mechanical systems and processes

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**10**
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**16**	**13**	**7**
SEMESTER 3	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**9**
				Year 1 Total:	**41**	**31**	**26**

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2131	Industrial Maintenance Mechanics	-	-	2	2	0
	AEMA2231	Industrial Maintenance Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	**16**	**12**	**10**
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	**15**	**12**	**7**
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
				Semester 6 Total:	**6**	**4**	**4**
				Year 2 Total:	**37**	**28**	**21**

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEMA3301	Mechanics, Statics & Dynamics	AEMA1102 PHYS1021 MATH1020 OR AMPII Score of 85%	-	3	2	2
	AEMA3311	Computer Aided Design II	AEMA2311	-	3	2	2
	AEMA3321	Technology Capstone Project I	-	COMM3010 RSST3001 OR RSST3002	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	12	11	6
SEMESTER 8	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AEMA3121	Applied Fluid Mechanics	MATH1030 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	AEMA3302	Strength of Materials	AEMA3301		3	2	2
	AEMA3332	Technology Capstone Project II	AEMA3321	-	3	3	0
				Semester 8 Total:	12	9	6
SEMESTER 9	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	AEMA3322	Maintenance Engineering	AEMA2203	-	3	3	1
	AEMA4312	Applied CNC & CAM	AEMA2221 AEMA3311	-	3	2	3
				Semester 9 Total:	8	7	4
				Year 3 Total:	32	27	16
				Adv. Dip. MET Program Total:	110	86	64

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program may choose to continue their studies and complete the Bachelor of Science in Mechanical Engineering -Maintenance Engineering (B.Sc. ME-MaE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) is an applied three-year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Maintenance Technologist
- Shop Supervisor
- Field Service Technologist
- Maintenance Coordinator
- Mechanical Technician
- Building Operator

Program Webpage:

Click Here

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Program Description:

The Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program provides students with the knowledge, skills and competencies needed for a career in the telecommunications and networking industry. Through the program, students develop the knowledge and technical skills required to install, operate, maintain and troubleshoot telecommunications and networking systems. Students engage in hands-on experiential learning through the operation of equipment in state-of-the art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Telecommunications and Network Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program, graduates will be able to:

PEO01ad: Contribute to problem solving in industries and activities appropriate to the discipline
PEO02ad: Distinguish themselves as effective communicators and team members in their profession
PEO03ad: Model ethical and professional attitudes and behavior
PEO04ad: Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program, graduates will be prepared to:

SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined telecommunications and network problems
SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
SLO05ad. Function effectively as a member of a technical team
SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of network and communication processes

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**9**
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR AMPII Score of 75%	-	3	3	0
				Semester 2 Total:	**18**	**15**	**7**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**8**
				Year 1 Total:	**43**	**33**	**24**

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102 AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2121	Analog & Digital Communication	AEEL1102 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
				Semester 4 Total:	**17**	**12**	**11**
SEMESTER 5	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2111	AETN2212	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2211	AETN2112	1	0	3
	AETN2122	Wireless Communication Systems	AETN2121	-	3	3	0
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	2
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 5 Total:	**16**	**12**	**10**
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
				Semester 6 Total:	**4**	**2**	**6**
				Year 2 Total:	**37**	**26**	**27**

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AETN3101	Cyber Security	AETN2112	AETN3201	3	3	0
	AETN3201	Cyber Security (Lab)	AETN2212	AETN3101	1	0	3
	AETN3111	Applied Electromagnetics	MATH2010	-	3	3	0
	AETN3222	Applied Programming II	AETN2302	-	2	0	5
	AETN3331	Technology Capstone I	AETN2103 AETN2203	COMM3010	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 7 Total:	**12**	**10**	**10**
SEMESTER 8	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AETN3102	Antennas & Wave Propagation	AETN3111	AETN3202	2	2	0
	AETN3202	Antennas & Wave Propagation (Lab)	AETN2222	AETN3102	1	0	3
	AETN3332	Technology Capstone II	AETN3331	-	3	3	0
	AETN4112	Enterprise Unified Communications	AETN3101	AETN4212	3	3	0
	AETN4212	Enterprise Unified Communications (Lab)	AETN3201	AETN4112	1	0	3
				Semester 8 Total:	**13**	**11**	**6**
				Year 3 Total:	**25**	**21**	**16**
				Adv. Dip. TNET Program Total:	**105**	**80**	**67**

Graduate Future Pathways:

Graduates of the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering -Telecommunications and Network Engineering (B.Sc. EE-TNE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) is an applied three-year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Telecommunications Technician
- Telecommunications Project Coordinator
- Assistant Field Representative
- Network Technologist
- Deployment Technician
- Infrastructure Technician

Program Webpage:

Click Here

Bachelor Programs

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Program Description:

The Bachelor of Science in Chemical Engineering – Processing Engineering (B.Sc. CE-PE) degree program provides students with the knowledge, skills, and competencies needed for a career in the chemical or petroleum industry. After completion of the B.Sc. CE-PE program, graduates will be able to design, implement, operate, maintain, and troubleshoot chemical and processing units and plants. Students gain an in-depth knowledge of process operation, process control and techniques, and equipment design.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth study of a complex chemical and processing engineering technology-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. CE-PE program through the completion of a capstone project and an in-field work placement prepares graduates for exciting careers in the chemical or petroleum industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Chemical and Processing Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and and admission priority category

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
PEO03b. Establish a successful career in various chemical engineering technology professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) program, graduates will be prepared to:

SLO01b. Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**9**
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**15**	**11**	**10**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**6**	**4**	**4**
				Year 1 Total:	**39**	**30**	**23**

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 PHYS1020 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2131	Physical Chemistry for Chemical Engineers	CHEM1020	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
				Semester 4 Total:	**16**	**12**	**11**
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111	-	2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020 OR AMPII Score of 85%	-	2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
				Semester 5 Total:	**12**	**10**	**5**
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
				Semester 6 Total:	**7**	**7**	**0**
				Year 2 Total:	**35**	**29**	**16**

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECH3101	Applied Fluid Mechanics	AECH2142	-	3	3	0
	AEMA3142	Applied Heat Transfer	AECH2142	-	3	3	0
	AECH3132	Chemical Reaction Engineering	AECH2122 MATH2010	-	3	3	0
	AECH3321	Process Unit Design	AECH2122	-	4	3	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	16	15	2
SEMESTER 8	AECH3222	Fluid Mechanics & Heat Transfer (Lab)	AECH3101 AEMA3142		1	0	3
	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AECH4210	Mass Transfer & Separation Processes	AECH2331 AECH3321	-	3	3	0
	AECH4221	Chemical Reaction Engineering (Lab)	AECH3132		1	0	3
	AECH4232	Materials & Corrosion	CHEM3010	-	4	4	0
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 8 Total:	15	10	13
SEMESTER 9	AECH3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	9	0	0
				Year 3 Total:	40	25	15

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AECH4102	Applied Differential Equations	MATH2010	-	3	3	0
	AECH4211	Plant Design & Economics	AECH3321	-	3	2	3
	AECH4301	Capstone Project I	AECH3321	AEMA4100, COMM3010	0	0	2
	AEMA4100	Project Management	AECH2103	-	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 10 Total:	12	11	5
SEMESTER 11	AECH4112	Process Safety Management	AECH1112 AECH2122 AECH2331	-	2	2	0
	AECH4122	Chemical Industries & Technology	AECH1103 CHEM3010	-	2	2	0
	AECH4302	Capstone Project II	AECH4301	-	3	3	0
	Social Science, Humanities, & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 11 Total:	10	10	0
				Year 4 Total:	**22**	**21**	**5**
				B.Sc. CE-PE Program Total:	**136**	**105**	**59**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chemical Engineer
- Research & Development Engineer
- Refinery Process Engineer
- Process Engineer
- Chemical Operation Engineer
- Production Engineer
- Quality Control Engineer
- Chemical and Process Engineer
- Utilities Engineer

Program Webpage:

Click Here

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Program Description:

The Bachelor of Science in Construction Engineering (B.Sc. ConE) degree program provides students with the knowledge, skills, and competencies needed for a career in the construction industry. After completing the B.Sc. ConE degree program, students will be able to plan, design, implement, and manage the construction process including the maintenance and rebuild of infrastructure facilities. Students gain a strong foundation in engineering design and management combined with construction engineering mechanics.

In the third year of studies students engage in a semester long in-field training experience. In their final year, students conduct an in-depth study of a complex construction engineering technology-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. ConE program through the completion of a capstone project and an in-field work placement prepares graduates for exciting careers in the construction engineering industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-Year Construction Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirement.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Construction Engineering (B.Sc. ConE) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical thinking, teamwork, and communication skills
PEO03b. Establish a successful career in various construction engineering professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Construction Engineering (B.Sc. ConE) program, graduates will be prepared to:

SLO01b. Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**14**	**12**	**6**
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**18**	**16**	**6**
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**8**	**4**	**8**
				Year 1 Total:	**40**	**32**	**20**

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AECE1200 AEMA1312	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020 OR AMPII Score of 85%	-	2	2	0
	AECE2120	Statics	MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020 OR AMPII Score of 85%	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
				Semester 4 Total:	16	13	9
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
	Mathematics & Natural Science Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 5 Total:	17	15	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 6 Total:	5	3	5
				Year 2 Total:	38	31	19

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECE3100	Soil Mechanics	AECE2210 AECE2230	-	3	3	0
	AECE3101	Soil Mechanics (Lab)	-	AECE3100	1	0	3
	AECE3120	Construction Planning & Scheduling	AECE1200 AECE1230 AECE2220	-	3	3	0
	AEMA3121	Applied Fluid Mechanics	PHYS1020 MATH1030	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Elective II: Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 7 Total:	**16**	**14**	**5**
SEMESTER 8	AECE3210	Construction Cost Estimation	AECE1200, AECE1230, AECE2220	-	3	3	0
	AECE3220	Built-Facility Maintenance & Repair	AECE2100, AECE2230	AECE3230	3	3	0
	AECE3230	Structural Engineering	AECE2230, MATH2010	-	3	3	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
				Semester 8 Total:	**14**	**14**	**0**
SEMESTER 9	AECE3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	**9**	**0**	**0**
				Year 3 Total:	**39**	**28**	**5**

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AECE4100	Capstone Project I	AECE3230, RSST3002 OR RSST3001	COMM3010	0	0	2
	AECE4101	Applied Differential Equations	MATH2010	-	3	3	0
	AECE4110	Construction Contract Administration	AECE2100	-	3	3	0
	AECE4111	Concrete Testing (Lab)	AECE3230	AECE4120	1	0	3
	AECE4120	Concrete & Structural Systems Design & Behavior	AECE3230	-	3	3	0
	AECE4130	Site Operations Management & Control	AECE1200, AECE2220	-	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 10 Total:	16	15	5
SEMESTER 11	AECE4200	Capstone Project II	AECE4100	-	3	0	9
	AECE4210	Highway & Pavement Engineering	AECE2130, AECE2230, AEMA1312	-	3	3	0
	AECE4220	Facility & Infrastructure Asset Management	AECE2210, AECE3220	-	2	2	0
	AECE4230	Construction Project Management	AECE3120	-	3	3	0
				Semester 11 Total:	11	8	9
				Year 4 Total:	**27**	**23**	**14**
				B.Sc. ConE Program Total:	**144**	**120**	**58**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Construction Engineering (B.Sc. ConE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to the following:

- Construction Engineer
- Construction Contract Administrator
- Civil Engineer
- Construction Manager
- Planning and Scheduling Engineer
- Project Engineer
- Project Manager
- Maintenance Engineer
- Highway Infrastructure Engineer

Program Webpage:

Click Here

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Program Description:

The Bachelor of Electrical Engineering - Automation and Control Systems Engineering (B.Sc. EE-ACSE) is appropriate for students who wish to focus on automation and control systems in electrical engineering. This applied degree program is closely linked to the labor market and emphasizes automation, controls, robotics, artificial intelligence, and related fields. Students in this concentration receive a solid theoretical and practical background in a variety of topics, including: theory, design, development and implementation of automation and control systems, embedded systems; PLCs, DCS and SCADA systems, Cyber Security, and machine learning. Students are exposed to emerging state-of-the-art theories and implementations related to automation, control, human-machine interaction, and robotic applications and technologies.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct and in-depth research study of a complex automation and control systems engineering problem, utilizing a systems approach in the design and presentation of innovative engineering solutions. The consolidation of the skill set developed in the B.Sc. EE-ACSE program through the completion of a capstone project and work placement prepares graduates for exciting careers in the automation and control systems industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Automation and Control Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) program, graduates will be able to:

PEO1b. Demonstrate a strong foundation in scientific and technical knowledge
PEO2b. Display problem solving, critical-thinking, teamwork, and communication skills
PEO3b. Establish a successful career in various automation and control professions
PEO4b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO5b. Demonstrate leadership qualities and commitment in their chosen field
PEO6b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) program, graduates will be prepared to:

SLO01b: Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**8**
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**18**	**15**	**7**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**8**
				Year 1 Total:	**43**	**33**	**23**

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP3121	Advanced Engineering Mathematics & Applications	MATH2010	-	3	3	0
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
				Semester 4 Total:	15	12	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	AEEP3132	Discrete Mathematics	-	-	3	3	0
				Semester 5 Total:	16	12	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2113	PLC Programming & Control	AEEP2122, AETN1102	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222, AETN1202	AEAC2113	1	0	3
				Semester 6 Total:	6	4	5
				Year 2 Total:	37	28	21

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEAC3101	System Automation & Embedded Systems	AEEP2301	-	3	3	0
	AEAC3111	Process Control Applications	AEAC2103	-	2	2	0
	AEAC3201	System Automation & Embedded Systems (Lab)	AEEP2301	AEAC3101	1	0	2
	AEAC3211	Process Control Applications (Lab)	AEAC2203	AEAC3111	1	0	2
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 7 Total:	16	14	4
SEMESTER 8	AEAC3102	Safety Shutdown & Instrumented Systems	AEAC3111	-	2	2	0
	AEAC3112	DCS & SCADA	AEAC2113	-	3	3	0
	AEAC3122	Industrial Process Analysis	AEAC2101	-	2	2	0
	AEAC3202	Safety Shutdown & Instrumented Systems (Lab)	AEAC3211	AEAC3102	1	0	2
	AEAC3212	DCS & SCADA (Lab)	AEAC2213	AEAC3112	1	0	3
	AEAC3222	Industrial Process Analysis (Lab)	AEAC2201	AEAC3122	1	0	2
	AEEP3112	Control Systems Design	AEEP3121	-	3	3	0
	AEEP3212	Control Systems Design (Lab)	AEEP3121	AEEP3112	1	0	2
				Semester 8 Total:	14	10	9
SEMESTER 9	AEAC3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	9	0	0
				Year 3 Total:	39	24	13

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEAC4101	Robotics & Intelligent Control	AEAC3101	-	3	3	0
	AEAC4201	Robotics & Intelligent Control (Lab)	AEAC3201	AEAC4101	1	0	2
	AEAC4311	Capstone Project I	Min 80 CR	AEEP4100	0	1	2
	AEEP4100	Project Management	-	AEEP4301 OR AEAC4311	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 10 Total:	13	13	4
SEMESTER 11	AEAC4102	AI & Machine Learning for Process Control	AEAC4101 MATH2010 (RSST3001 OR RSST3002)	-	2	2	0
	AEAC4112	Cyber Security & Industrial IoT	AEAC3112 AEAC3101	-	2	2	0
	AEAC4202	AI & Machine Learning for Process Control (Lab)	AEAC4201 MATH2010 (RSST3001 OR RSST3002)	AEAC4102	1	0	2
	AEAC4212	Cyber Security & Industrial IoT (Lab)	AEAC3212 AEAC3201	AEAC4112	1	0	2
	AEAC4322	Capstone Project II	AEAC4311	-	3	3	0
				Semester 11 Total:	9	7	4
				Year 4 Total:	**22**	**20**	**8**
				B.Sc. EE-ACSE Program Total:	**141**	**105**	**65**

Graduate Future Pathways:

Graduates of Bachelor of Science in Electrical Engineering – Automation and System Control Systems Engineering (B.Sc. EE-ASCE) are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Automation and Control Engineer
- SCADA and DCS Engineer
- Control Systems Engineer
- Systems Engineer
- Instrumentation and Control Engineer
- Robotics Engineer
- QA Engineer - Automation
- Field Service Engineer
- System Design Engineer

Program Webpage:

Click Here

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Program Description:

Electrical power and renewable energy are specializations in electrical engineering concerning the generation, transmission, and distribution of electrical power from a wide range of sources, with special emphasis on renewable energy sources. The Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) is an applied degree with learning outcomes closely linked to the labor market. The program consists of a range of core electrical power subjects, leading to in-depth studies relating to renewable energy systems. The applied nature of the program provides skills and competencies relevant to professional engineering practice along with a sound theoretical base. The program includes strong elements of practical problem solving, teamwork, project development and practical industrial experience.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a complex electrical power and /or renewable energy-based problem, utilizing a systems approach in the design and presentation of innovative engineering solutions. The consolidation of the skill set developed in the B.Sc. EE-EPREE program through the completion of a capstone project and work placement prepares graduates for exciting careers in the electrical power and renewable energy engineering.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-year Electrical Power Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills.
PEO03b. Establish a successful career in various electrical power technology professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE) program, graduates will be prepared to:

SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**8**
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**18**	**15**	**7**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**8**
				Year 1 Total:	**43**	**33**	**23**

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101, MATH1020 OR AMPII Score of 85%	-	2	1	2
	AEEP3121	Advanced Engineering Mathematics & Applications	MATH2010	-	3	3	0
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
				Semester 4 Total:	**17**	**13**	**9**
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2122	Motor Controls & Drives	AEEP2111, AETN2101	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	AEEP3132	Discrete Mathematics	-	-	3	3	0
				Semester 5 Total:	**15**	**11**	**10**
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2113	HV Equipment Testing & Maintenance	AEEP2111	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
				Semester 6 Total:	**6**	**4**	**4**
				Year 2 Total:	**38**	**28**	**23**

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEEP3101	Introduction to Embedded Systems	AEEP2301	-	2	2	0
	AEEP3111	Power Systems II	AEEP2102	-	3	3	0
	AEEP3201	Introduction to Embedded Systems (Lab)	AEEP2301	AEEP3101	2	0	6
	AEEP3211	Power Systems II (Lab)	AEEP2202	AEEP3111	1	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	**17**	**13**	**11**
SEMESTER 8	AEEP3102	Power Electronics	AEEP2122 AETN2101	-	3	3	0
	AEEP3112	Control Systems Design	AEEP3121	-	3	3	0
	AEEP3122	Renewable Energy Conversion I	AECH2112	-	3	3	0
	AEEP3202	Power Electronics (Lab)	AEEP2222 AETN2201	AEEP3102	1	0	2
	AEEP3212	Control Systems Design (Lab)	AEEP3121	AEEP3112	1	0	2
	AEEP3222	Renewable Energy Conversion I (Lab)	AECH2112	AEEP3122	1	0	2
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 8 Total:	**15**	**12**	**6**
SEMESTER 9	AEEP3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	**9**	**0**	**0**
				Year 3 Total:	**41**	**25**	**17**

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEEP4100	Project Management	-	AEEP4301 OR AEAC4311	3	3	0
	AEEP4111	Renewable Energy Conversion II	AEEP3122	-	3	3	0
	AEEP4211	Renewable Energy Conversion II (Lab)	AEEP3222	AEEP4111	1	0	2
	AEEP4301	Capstone Project I	Min 80 Credits AND AEEP3102 AEEP3202 AEEP3101 AEEP3201 AEEP3111 AEEP3211 AEEP3122 AEEP3222	AEEP4100	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 10 Total:	13	13	4
SEMESTER 11	AEEP4112	Energy Efficiency & Storage	AEEP4111	-	2	2	0
	AEEP4122	Smart Grids	AEEP3102 AEEP3202 AEEP3111 AEEP3211 AEEP3122 AEEP3222 AEEP3101 AEEP3201	-	3	3	0
	AEEP4212	Energy Efficiency & Storage (Lab)	AEEP4211	AEEP4112	1	0	2
	AEEP4302	Capstone Project II	AEEP4301	-	3	3	0
				Semester 11 Total:	9	8	2
				Year 4 Total:	**22**	**21**	**6**
				B.Sc. EE-EPREE Program Total:	**144**	**107**	**69**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPRE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE-PRE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Electrical Engineer
- Electrical Power Systems Engineer
- Renewable Energy Engineer
- Electrical Power Systems Operator and Designer
- High Voltage (HV) and Low Voltage (LV) Engineer
- Energy Systems Planning/Design Engineer
- Field Engineer
- Solar Systems Engineer
- Wind Energy Engineer

Program Webpage:

Click Here

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Program Description:

The Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree program provides students with the knowledge, skills, and competencies needed for a career in the telecommunications and networking industry. After completing the B.Sc. EE-TNE program, graduates will be able to design telecommunications devices, components, systems, equipment, and distribution centers. Graduates will also be able to specify production or installation methods, materials, quality and safety standards, and direct the production or installation of telecommunication and network equipment. Students gain an in-depth knowledge of developing, configuring, and implementing communications equipment through appropriate choice of hardware and software design.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a complex telecommunications and networking-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. EE-TNE program through the completion of a capstone project and work placement prepares graduates for an exciting career in the telecommunication and networking industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two- year Telecommunications and Network Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
PEO03b. Establish a successful career in various telecommunication or network engineering technology professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) program, graduates will be prepared to:

SLO01b. Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**8**
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1112 AETN1202	3	3	0
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**18**	**15**	**7**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 3 Total:	**7**	**3**	**8**
				Year 1 Total:	**43**	**33**	**23**

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102, AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2121	Analog & Digital Communication	AEEL1102, MATH1020 OR AMPII Score of 85%	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 4 Total:	17	12	11
SEMESTER 5	AECH2103	Leadership & Management Principles	AECH1100, COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2111	AETN2212	3	3	0
	AETN2122	Wireless Communication Systems	AETN2121	-	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2211	AETN2112	1	0	3
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	2
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
	CHEM1010	General Chemistry I		CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)		CHEM1010	1	0	3
				Semester 5 Total:	17	12	13
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
				Semester 6 Total:	4	2	6
				Year 2 Total:	**38**	**26**	**30**

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AETN3101	Cyber Security	AETN2112	AETN3201	3	3	0
	AETN3111	Applied Electromagnetics	MATH2010	-	3	3	0
	AETN3201	Cyber Security (Lab)	AETN2212	AETN3101	1	0	3
	AETN3221	Linux Operating System	AETN2302	-	2	0	5
	AETN4101	Continuous & Discrete-time Signals & Systems	MATH2010	-	3	3	0
				Semester 7 Total:	15	12	8
SEMESTER 8	AETN3122	Telecommunications Networks	AETN2112	-	3	3	0
	AETN3222	Applied Programming II	AETN2302	-	2	0	5
	AETN4122	Advanced Engineering Mathematics & Applications	AETN4101	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Social Science, Humanities, & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 8 Total:	14	12	5
SEMESTER 9	AETN3203	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	9	0	0
				Year 3 Total:	**38**	**24**	**13**

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEMA4100	Project Management	AECH2103	-	3	3	0
	AETN3102	Antennas & Wave Propagation	AETN3111	AETN3202	2	2	0
	AETN3112	Network Management	AETN3122	-	2	2	0
	AETN3202	Antennas & Wave Propagation (Lab)	AETN2222	AETN3102	1	0	3
	AETN4301	Capstone Project I	AETN3101 AETN3201	AEMA4100 COMM3010	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 10 Total:	**11**	**11**	**5**
SEMESTER 11	AETN4112	Enterprise Unified Communications	AETN3101	AETN4212	3	3	0
	AETN4121	Microwave Engineering	AETN3111	AETN4221	2	2	0
	AETN4212	Enterprise Unified Communications (Lab)	AETN3201	AETN4112	1	0	3
	AETN4221	Microwave Engineering (Lab)	AETN3202	AETN4121	1	0	3
	AETN4302	Capstone Project II	AETN4301	-	3	3	0
				Semester 11 Total:	**10**	**8**	**6**
				Year 4 Total:	**21**	**19**	**11**
				B.Sc. EE-TNE Program Total:	**140**	**102**	**77**

Graduate Future Pathways:

Graduates of Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Linux Cloud Kernel Engineer
- Field Service Engineer
- Telecom Engineer
- Communications Research & Development Engineer
- Service Installation Engineer
- Network Security Analyst/Administrator

Program Webpage:

Click Here

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Program Description:

The Bachelor of Science in Marine Engineering (B.Sc. MrnE) is an interdisciplinary applied degree with learning outcomes closely linked to the labor market. The program provides students with the knowledge, skills and competencies needed for a career in the marine engineering industry. Marine engineering is the operation, maintenance and monitoring of mechanical systems aboard marine vessels, including boats, ships and submarines.

The program prepares graduates to apply knowledge of mathematics to analyze and design marine engineering systems. Graduates apply knowledge of design, development, operation and maintenance of marine propulsion and ocean systems. They also utilize basic concepts of management topics such as economics, business, communications, leadership, engineering economics, engineering management, and cost control in the field of marine engineering. The program also incorporates the application of different engineering fields such as computer science, electrical engineering, electronic engineering, and mechanical engineering.

Marine engineers have the responsibility for some or all major mechanical and engineered systems aboard a vessel. These could include systems related to electricity generation, propulsion, fuel, air conditioning, lighting, water distillation, lubrication, electrical and electronic components, and more.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-Year Diploma in Mechanical Engineering Technology or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Marine Engineering (B.Sc. MrnE) program, graduates will be able to:

PEO01b: Demonstrate a strong foundation in scientific and technical knowledge
PEO02b: Apply problem solving, critical thinking, teamwork, and communication skills
PEO03b: Establish a successful career in various marine/ maritime engineering professions
PEO04b: Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b: Demonstrate leadership skills within their chosen fields
PEO06b: Participate in identifying contemporary challenges and/or presenting action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Marine Engineering (B.Sc. MrnE) program, graduates will be prepared to:

SLO01b: Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b: Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b: Communicate effectively with a range of audiences
SLO04b: Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b: Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b: Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b: Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AEMR1000	Introduction to Marine Engineering	-	-	1	1	0
	CHEM1010	Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**16**	**6**
SEMESTER 2	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	AEMR1102	Health & Safety in Marine Engineering	-	-	2	2	0
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**15**	**13**	**5**
SEMESTER 3	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
				Semester 3 Total:	**9**	**6**	**7**
				Year 1 Total:	**42**	**35**	**18**

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2133	Welding & Non-Destruct Testing	AEMA1113	-	1	1	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2233	Welding & Non-Destructive Testing (Lab)	AEMA1102	AEMA2133	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 4 Total:	15	8	16
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AEMA3111	Multivariate Calculus	MATH2010	-	3	3	0
	AEMA3121	Applied Fluid Mechanics	MATH1030 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	AEMA3301	Mechanics, Statics & Dynamics	PHYS1021 AEMA1102 MATH1020 OR AMPII Score of 85%	-	3	2	2
	AEPC1203	Basic Instrumentation	(AEEL1100 & AEEL1200) OR (AEEL1101 & AEEL1201)	-	2	0	4
				Semester 5 Total:	17	12	10
SEMESTER 6	AECH2103	Leadership & Management Principles	COMM1020 AECH1100	-	2	2	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
				Semester 6 Total:	7	6	2
				Year 2 Total:	**39**	**26**	**28**

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
	AEMR3302	Strength of Materials & Ship Hull	AEMA3301	-	3	3	1
	AEMA4142	Applied Heat Transfer	AEMA3121 OR AECH2142	-	3	3	0
	RSST3002	Probability & Stat Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	12	11	3
SEMESTER 8	AEMA3112	Applied Differential Equations	MATH2010	-	3	3	0
	AEMR3105	Maritime Laws & Standards	AEMR3302	-	1	1	0
	AEMR3111	Ship Propulsion	AEMA3121	AEMR3112	3	3	0
	AEMR3112	Ship Propulsion (Lab)	-	AEMR3111	1	0	3
	AEMR3303	Machine Elements	AEMR3302	-	3	3	1
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 8 Total:	17	16	4
SEMESTER 9	AEMR3000	Work Placement/Sea Time	Min 85 credits	-	9	360 Total HRs	9
				Semester 9 Total:	9	0	9
				Year 3 Total:	**38**	**27**	**16**

Bachelor of Science in Marine Engineering (B.Sc. MrnE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEMA4100	Project Management	AECH2103	-	3	3	0
	AEMR4101	Marine Engines	AEMR3111	AEMR4103	3	3	0
	AEMR4103	Marine Engines (Lab)	-	AEMR4101	1	0	3
	AEMR4112	Introduction to Maritime Economics & Logistics	AEMR3302	-	3	3	0
	AEMR4301	Capstone Project I	AEMR3111 COMM3010	AEMR4311	0	1	2
	AEMR4311	Ship Systems & Equipment Design	AEMR3111	AEMR4301	3	2	3
				Semester 10 Total:	13	9	8
SEMESTER 11	AEMR4104	Marine Control Systems	AEMR3111 AETN2302	-	3	3	0
	AEMR4106	Marine Hydrodynamics	AEMR3302 AEMA3121	-	3	3	0
	AEMR4108	Ship System Operations & Navigation Simulator	AEMR4101	-	1	0	3
	AEMR4110	Maritime Green Operations & Decarbonization Technology	AEMR4101 AECH2112	-	1	1	0
	AEMR4114	Safety Management	AEMR1102 AEMR3111	-	3	3	0
	AEMR4302	Capstone Project II	AEMA4301	-	3	3	0
				Semester 11 Total:	14	13	3
				Year 4 Total:	**27**	**22**	**11**
				B.Sc. MrnE Program Total:	**146**	**110**	**73**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Marine Engineering (B.Sc. MrnE) degree program are equipped to pursue further specialization in their field or research.

Graduate Career Opportunities:

The Bachelor of Science in Marine Engineering (B.Sc. MrnE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Marine Engineer
- Marine Maintenance Engineer
- Cargo Engineer
- Naval Engineer
- Maritime Engineer
- Ocean Engineer
- Ship Engineer
- Port Engineer
- Marine Mechanical Engineer
- Subsea Engineer
- Port Mechanical Engineer
- Marine Design Engineer
- Marine Technician
- Marine Operation Engineer
- Ship Production Engineer
- Marine Specialist
- Production Engineer

Program Webpage:

Click Here

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Program Description:

The Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) degree program prepares graduates with the theoretical and technical knowledge, competencies and hands-on skills required to install, operate, maintain, troubleshoot, and manage mechanical systems in advanced manufacturing. In the first two years of study, students develop core academic competencies, practice functional skills related to subject knowledge, and develop critical thinking skills. In subsequent years, students practice applying theoretical skills and competencies related to industrial maintenance (including reliability centered maintenance, failure mode and effect analyses, and advanced functions of computerized maintenance management systems).

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a mechanical/maintenance engineering-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. ME-MaE program through the completion of a capstone project and work placement prepares graduates for exciting careers in mechanical engineering.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two- year Mechanical Engineering Technology Diploma or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
PEO03b. Establish a successful career in various maintenance engineering technology professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety is-sues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) program, graduates will be prepared to:

SLO01b. Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**9**
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010 OR AMPII Score of 75%	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**18**	**14**	**10**
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1113	Materials Practices	CHEM1010, PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
				Semester 3 Total:	**7**	**5**	**5**
				Year 1 Total:	**43**	**34**	**24**

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2131	Industrial Maint. Mechanics	-	-	2	2	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2231	Industrial Maint. Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 4 Total:	16	12	10
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	4
				Semester 5 Total:	14	9	11
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
	AEMA3121	Applied Fluid Mechanics	MATH1030 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
				Semester 6 Total:	9	6	6
				Year 2 Total:	**39**	**27**	**27**

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEMA3111	Multivariate Calculus	MATH2010	-	3	3	0
	AEMA3301	Mechanics, Statics & Dynamics	AEMA1102 PHYS1021 MATH1020 OR AMPII Score of 85%	-	3	2	2
	AEMA3311	Computer Aided Design II	AEMA2311	-	3	2	2
	AEMA4142	Applied Heat Transfer	AEMA3121 OR AECH2142	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	**15**	**13**	**4**
SEMESTER 8	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	AEMA4111	Applied Differential Equations	MATH2010	-	3	3	0
	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AEMA3302	Strength of Materials	AEMA3301		3	2	2
	AEMA3322	Maintenance Engineering	AEMA2203	-	3	3	1
	AETN2302	Applied Programming I	MATH1020 OR AMPII Score of 85%	-	3	1	5
				Semester 8 Total:	**17**	**13**	**10**
SEMESTER 9	AEMA3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	**9**	**0**	**0**
				Year 3 Total:	**41**	**26**	**14**

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEMA4100	Project Management	AECH2103	-	3	3	0
	AEMA4121	Pipeline Protection & Maintenance	AEMA2222	-	2	2	0
	AEMA4301	Capstone Project I	RSST3001 OR RSST3002	AEMA4100 AEMA4311 COMM3010	0	1	2
	AEMA4311	Machine Design	AEMA3302	-	3	2	3
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 10 Total:	11	11	5
SEMESTER 11	AEMA4122	Quality Control	AEMA3311 RSST3002	-	2	2	0
	AEMA4302	Capstone Project II	AEMA4301	-	3	3	0
	AEMA4312	Applied CNC & CAM	AEMA2221 AEMA3311	-	3	2	3
	AEMA4332	Facilities Maintenance Management	AECH3302 AEMA2311 AEMA3322	-	2	1	3
				Semester 11 Total:	10	8	6
				Year 4 Total:	**21**	**19**	**11**
				B.Sc. ME-MaE Program Total:	**144**	**106**	**76**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) degree programs are equipped to pursue further specialization in their field or research.

Graduate Career Opportunities:

The Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Mechanical Maintenance Engineer
- Industrial Maintenance Engineer
- Industrial Operations Engineer
- Diagnostic Engineer
- Operation Engineer
- Maintenance Manager

Program Webpage:

Click Here

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Program Description:

The Bachelor of Science in Mechanical Engineering-Smart Manufacturing Engineering (B.Sc. ME-SME) is an applied degree with learning outcomes closely linked to the labor market. The program provides students with the knowledge, skills and competencies needed for a career in the Mechanical-Manufacturing industry. After completing this Bachelor's degree program, students are able to design, implement, operate, maintain, calibrate, troubleshoot mechanical systems, and optimize processes. Students in this program gain an in-depth knowledge of manufacturing equipment, control and techniques, and product design. This skill set, when consolidated through the completion of a Capstone project and work placement, prepares graduates for an exciting career in the manufacturing industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Science (Chemistry or Physics is preferred); OR
2. Two-Year Diploma in Mechanical Engineering Technology or equivalent approved by the Ministry of Education and Higher Education.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME) program, graduates will be able to:

PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
PEO03b. Establish a successful career in various Mechanical-Manufacturing engineering professions
PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO05b. Demonstrate leadership within their chosen fields
PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Mechanical Engineering - Smart Manufacturing Engineering (B.Sc. ME-SME) program, graduates will be prepared to:

SLO01b. Identity, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
SLO03b. Communicate effectively with a range of audiences
SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1030	Calculus I	MATH1020 OR AMPII Score of 85%	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
				Semester 1 Total:	**18**	**15**	**9**
SEMESTER 2	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	AEMA1102	Health & Safety in a Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
				Semester 2 Total:	**17**	**14**	**6**
SEMESTER 3	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AEMA1113	Materials Practices	CHEM1010 & PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
				Semester 3 Total:	**9**	**6**	**7**
				Year 1 Total:	**44**	**35**	**22**

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AEEP2301	Applied Programming	AEEL1101 MATH1020 OR AMPII Score of 85%	-	2	1	2
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
	AEMA3111	Multivariate Calculus	MATH2010	-	3	3	0
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 4 Total:	**18**	**14**	**8**
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH3302	Applied Thermodynamics	MATH1030 PHYS1020	-	3	2	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2133	Welding & Non-Destructive Testing	AEMA1113	-	1	1	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
	AEMA2233	Welding & Non-Destructive Testing (Lab)	AEMA1102	AEMA2133	1	0	3
	AEMA3301	Mechanics, Statics & Dynamics	AEMA1102 PHYS1021 MATH1020 OR AMPII Score of 85%	-	3	2	2
	Mathematics & Natural Sciences Elective: Select 1 of 3						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
				Semester 5 Total:	**17**	**13**	**9**
SEMESTER 6	AECH2103	Leadership & Management Principles	COMM1020 AECH1100	-	2	2	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	AEMA3333	Applied Dynamics & Kinematics	AEMA3301	-	3	2	2
				Semester 6 Total:	**7**	**6**	**2**
				Year 2 Total:	**42**	**33**	**19**

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	AEMA3112	Applied Differential Equations	MATH2010	-	3	3	0
	AEMA3121	Applied Fluid Mechanics	MATH1030 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	AEMA3302	Strength of Materials	AEMA3301	-	3	2	2
	AEMA3311	Computer Aided Design II	AEMA2311	-	3	2	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
				Semester 7 Total:	**15**	**12**	**6**
SEMESTER 8	AEAC3101	System Automation & Embedded Systems	AEEP2301	-	3	3	0
	AEAC3201	System Automation & Embedded Systems (Lab)	AEEP2301	AEAC3101	1	0	2
	AEMA3232	Advanced Manufacturing	-	AEMA4312	2	0	5
	AEMA3242	Designing & Prototyping	AEMA3311	AEMA4312	2	0	5
	AEMA4142	Applied Heat Transfer	AEMA3121 OR AECH2142	-	3	3	0
	AEMA4312	Applied CNC & CAM	AEMA3311 AEMA2221	-	3	2	3
				Semester 8 Total:	**14**	**8**	**15**
SEMESTER 9	AEMA3000	Work Placement	Min 85 Credits	-	9	360 Total HRs	
				Semester 9 Total:	**9**	**0**	**0**
				Year 3 Total:	**38**	**20**	**21**

Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	AEAC4101	Robotics & Intelligent Control	AEAC3101	-	3	3	0
	AEAC4201	Robotics & Intelligent Control (Lab)	AEAC3201	AEAC4101	1	0	2
	AEMA4100	Project Management	AECH2103	-	3	3	0
	AEMA4301	Capstone Project I	RSST3002 OR RSST3001	AEMA4100 AEMA4311 COMM3010	0	1	2
	AEMA4311	Machine Design	AEMA3302	-	3	2	3
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
				Semester 10 Total:	13	12	7
SEMESTER 11	AEAC4102	AI & Machine Learning for Process Control	AEAC4101 MATH2010 RSST3001 OR RSST3002	-	2	2	0
	AEAC4202	AI & Machine Learning for Process Control (Lab)	AEAC4201 MATH2010 RSST3001 OR RSST3002	AEAC4102	1	0	2
	AEMA4123	PLC	AEEL1102	-	1	1	0
	AEMA4223	PLC (Lab)	-	AEMA4123	1	0	3
	AEMA4302	Capstone Project II	AEMA4301	-	3	3	0
	AEMA4342	Computer-Integrated Manufacturing (CIM)	AEMA4312	AEAC4102	2	1	3
				Semester 11 Total:	10	7	8
				Year 4 Total:	23	19	15
				B.Sc. ME-SME Program Total:	147	107	77

Graduate Future Pathways:

Graduates of the Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME) degree program are equipped to pursue further specialization in their field or research.

Graduate Career Opportunities:

The Bachelor of Science in Mechanical Engineering – Smart Manufacturing Engineering (B.Sc. ME-SME) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Manufacturing Engineer
- Machine Shop Manager
- Fabrication Engineer
- Production Supervisor
- Project Manager
- Research and Development Engineer

Program Webpage:

Click Here

Master Programs

Master of Science in Process Safety (M.Sc. PS)

Program Description:

The Master of Science in Process Safety (M.Sc. PS) is a graduate program designed to provide students with the expertise to assess, measure and mitigate safety hazards, hazardous emissions, and exposure levels in compliance with local and international health and safety standards. Students in this program develop the necessary skills for the creation and operation of inherently safe chemical operations utilizing specialized knowledge built on a strong background in chemical engineering. The program is not only designed for theoretical concepts but also emphasizes practical applications from the chemical industry. This includes case studies from the industry and hands-on experience in measuring hazardous materials, assessing air and water quality, and ensuring compliance with local and international standards. Additionally, the program incorporates a risk management component. In an ever-evolving chemical industry, risks including chemical exposures, fires and explosions, process upsets and failure, human errors and many more are always present. This program allows students to actively identify, evaluate, and mitigate such risks.

The program content is aligned to international micro-credentials including NEBOSH, OSHA and American Institute of Chemical Engineers (AICHE). These micro-credentials are important as they provide international recognition of skills and competencies of the graduates and help them in marketability in the global workforce.

The program aims to train competent professionals in the field of Process Safety. By providing students with the skills and knowledge needed, the program aims to facilitate the attainment of an accredited graduate degree, fostering enhanced career development and improving students' understanding of the evolving field of Process Safety.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor in Chemical Engineering;
   OR
2. Bachelor degree in a related field of study from an accredited higher education institution with a minimum
3. GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate;
   OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, OR
2. Applicants who have not completed a related Bachelor Program may be considered for entry, and these applicants may be required to successfully complete one or more Bachelor courses to prepare them for success in this Master's Program.

Master of Science in Process Safety (M.Sc. PS)

Program Educational Objectives:

Within a few years of graduation from the Master of Science in Process Safety (MSc. PS.), graduates will be able to:

PEO01. Demonstrate mastery knowledge in Process Safety
PEO02. Illustrate success in health & safety as well as process safety careers
PEO03. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
PEO04. Demonstrate safety leadership in industrial settings

Student Learning Outcomes:

Upon successful completion of the M.Sc. in Process Safety, graduates will be prepared to:

SLO01. Incorporate concepts of engineering sciences to design and evaluate the control of safety processes and systems
SLO02. Produce engineering solutions for process safety that meet ethical, legal and social responsibilities
SLO03. Critically analyze, assess and mitigate risks associated with different industrial processes
SLO04. Measure and quantify safety levels, hazardous emissions and exposure levels in complex industrial processes, in compliance with international standards

Master of Science in Process Safety (M.Sc. PS)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH6101	Safe Design & Operations	-	-	3	3	0
	AECH6111	Chemical Process Safety & Hazardous Materials	-	-	3	3	0
	AECH6121	Hazard Identification & Risk Management	-	-	3	3	0
				Semester 1 Total:	9	9	0
SEMESTER 2	AECH6102	Advanced Process Safety Management	AECH6101	-	3	3	0
	AECH6112	Emergency Response & Crisis Management	AECH6121	-	3	3	0
	AECH6122	Ethical, Environmental & Legal Compliance	AECH6111	-	3	3	0
				Semester 2 Total:	9	9	0
				Year 1 Total:	**18**	**18**	**0**

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AECH7301	Emission Measurement Techniques & Exposure Limits	AECH6111 AECH6122	-	3	2	3
	AECH7201	Process Safety Thesis I	AECH6122	AECH7102	0	0	0
	AECH7102	Experimental Design & Data Analytics	-	-	3	3	0
				Semester 3 Total:	6	5	3
SEMESTER 2	AECH7302	Process Safety Thesis II	AECH7201	-	6	6	0
	AECH7111	Safety Culture, Human Centered Design & Stress Management	AECH6122	-	3	3	0
				Semester 4 Total:	9	9	0
				Year 2 Total:	**15**	**14**	**3**
				M.Sc. Process Safety Program Total:	**33**	**32**	**3**

Graduate Future Pathways:

Graduates of the Master of Science in Process Safety (M.Sc. PS) program may choose to continue their postgraduate studies and pursue a Doctorate degree in their area of specialization.

Graduate Career Opportunities:

The Master of Science in Process Safety (M.Sc. PS) is an applied degree with learning outcomes closely linked to the labor market.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Process Safety Manager (Supervisor)
- Risk Management Manager (Supervisor)
- Safety Specialist
- Senior Safety Engineer
- Safety Inspector
- Health and Safety Supervisor
- Health and Safety Engineer
- Health and Safety Officer

Program Webpage:

Click Here

Technician Certificate Programs (TCP)

The Technician Certificate Programs (TCP) offered by the College of Engineering and Technology (CET) are designed to prepare graduates to work as entry level maintenance and operations personnel within the energy sector of Qatar. Emphasis is placed on developing practical skills and the ability to work safely, and as part of a team. The College machine shops, pilot plants, modern classrooms, and laboratories provide an advanced, state-of-the-art education and training environment. These are equipped with the latest industrial class equipment, process simulation labs and pilot plant facilities. TCP program students will experience a blended learning environment, which applies advanced industrial and computer technologies, practical skills-based training, traditional learning methods, and e-learning.

The TCP offers four (4) specializations: Electrical, Instrumentation, Mechanical and Process Operations. Each specialization consists of practical at-college training and on-the-job workplace learning. Students who successfully complete the program receive a Technician Certificate

- Electrical Technician
- Instrumentation Technician
- Mechanical Technician
- Process Operations Technician

After acquiring industry experience, graduates may choose to continue their studies at the UDST and receive a specified number of transfer credits toward a diploma in the College of Engineering and Technology.

Technician Certificate - Electrical (T. Cert. Elec)

Program Description:

An electrical technician installs, operates, tests and repairs electrical equipment and controls. Working in Qatar's Energy sector, an electrical technician performs routine maintenance checks, ensuring that the testing and calibration of equipment are conducted according to standard operating procedures and manufacturer's recommendations. Electrical technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Electrical (T. Cert. Elec) prepares graduates for entry into a career as technicians in the electrical field within Qatar's Energy sector. The program is competency-based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Electrical program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

Admission to this program is reserved for eligible applicants meeting the following additional non-academic requirements:

1. Qatari nationality
2. Males born of Qatari mothers or fathers
3. Under 26 years old
4. Documented medical fitness as determined by QatarEnergy Standard Medical Test
5. Clearances from:
   - Ministry of Administrative Development, Labor and Social Affairs (ADLSA)
   - Ministry of the Interior (MOI)
   - General Headquarters Qatar Air Force (GHQAF)
6. Approval from Director of Administration (DA)
7. Sponsorship from any company within Qatar's energy sector.

Technician Certificate - Electrical (T. Cert. Elec)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electrical (T.Cert. Elec), graduates will be able to:

PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electrical (T.Cert. Elec), graduates will be able to:

SLO01. Install, examine, replace and repair electrical equipment
SLO02. Test electrical controls
SLO03. Conduct routine maintenance procedures to switchgears, transformers, electric motors, generators and electrical control systems
SLO04. Read and interpret electrical drawings
SLO05. Work as a member of a team in a variety of technical projects and tasks
SLO06. Apply safe work practices and personal protection

Technician Certificate - Electrical (T. Cert. Elec)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1100	General English I	FTEN1020 & FTEN1021 OR Min Score on AEP	-	0	225	0
FTMA1100	Technician Mathematics I	-	-	0	75	0
TCCO1110	Health, Safety, & Environment	-	-	2	18	42
TCCO1120	Hand Tools	-	TCCO1110	1	13	32
TCCO1130	Power Tools	-	TCCO1110 TCCO1120	1	13	32
WORKPLACE FAMILIARIZATION (3 WEEKS)						
TCCO1100	Workplace Orientation	-	-	0	0	0
			Semester 1 Total:	**4**	**344**	**106**
SEMESTER 2 (15 WEEKS)						
FTEN1200	General English II	FTEN1100	-	0	150	0
FTMA1200	Technician Mathematics II	FTMA1100	-	0	75	0
TCEL2110	Electrical Fundamentals I	TCCO1110 TCCO1120 TCCO1130	-	3	35	75
TCEL2120	Electrical Fundamentals II	TCCO1110	TCEL2110	3	25	60
TCEL2130	Hazardous Areas	TCCO1110	-	1	9	21
			Semester 2 Total:	**7**	**294**	**156**
SEMESTER 3 (7 WEEKS)						
TCEL2210	Conductors & Cables	FTMA1100 FTMA1200 TCCO1110 TCCO1120 TCCO1130	-	1	15	35
TCEL2220	Electrical Drawings	TCCO1110	-	1	16	39
TCEL2230	Electrical Transformers	TCCO1110	TCEL2220	1	13	32
TCEL2240	Electromagnetic Devices	TCEL2110 TCEL2120 TCCO1110 TCCO1120 TCCO1130	TCEL2220	2	18	42
			Semester 3 Total:	**5**	**62**	**148**
			Year 1 Total:	**16**	**700**	**410**

Technician Certificate - Electrical (T. Cert. Elec)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 4 (15 WEEKS)						
TCEL2310	Switchgear & Protection	TCCO1110 TCEL2240	-	1	15	35
TCEL2320	Power Supply & UPS	TCCO1110 TCEL2120 TCEL2220 TCEL2240	TCEL2310	1	21	49
TCEL2330	Electric Motors	TCCO1110 TCCO1120 TCCO1130 TCEL2110 TCEL2120 TCEL2220	-	2	22	53
TCEL2340	Motor Controls & Drives	TCCO1110 TCCO1120 TCCO1130 TCEL2110 TCEL2120 TCEL2220	TCEL2330	4	40	95
TCEL2350	PLC I	TCCO1110 TCCO1120 FTMA1200 TCEL2120	-	2	18	42
Elective: 1						
TCEL2311	AC Generators	TCCO1110 TCCO1120 TCCO1130 TCEL2110 TCEL2120 TCEL2220 TCEL2240	-	1	9	21
Elective: 2						
TCEL2321	PLC II	TCCO1110 TCCO1120 FTMA1200 TCEL2110 TCEL2240	TCEL2330 TCEL2340 TCEL2350	1	9	21
WORK PLACEMENT (24 WEEKS)						
TCEL3100	Worksite Practicum	-	-	24	0	0
			Semester 4 Total:	**36**	**134**	**316**
			Year 2 Total:	**36**	**134**	**316**
			T. Cert. Elec Total:	**52**	**834**	**726**

Graduate Future Pathways:

Graduates of the Technician Certificate – Electrical (T. Cert. Elec) may choose to continue their studies and receive advanced entry into the Diploma in Electrical Power Engineering Technology (Dip. EPET) program.

Graduate Career Opportunities:

The Technician Certificate - Electrical (T. Cert. Elec) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Electrical Technician
- Junior Power Supply Technician
- Electronic Equipment Maintenance Technician

Program Webpage:

Click here

Technician Certificate - Instrumentation (T. Cert. Instr)

Program Description:

An instrumentation and control technician inspects and tests instruments and plant machinery to ensure optimal and safe operation. Working in Qatar's Energy sector, an instrumentation and control technician reads and interprets instrumentation drawings, installs and maintains new or existing instruments, calibrates and maintains instrument components used to control or measure level, pressure, flow, and temperature, diagnoses instrumentation faults within a Distributed Control System or Programmable Logic Controller, and consults with process operators. Instrumentation technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Instrumentation (T. Cert. Instr) prepares graduates for entry into a career as technicians in the instrumentation field within Qatar's Energy sector. The program is competency-based with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Instrumentation program uses a block-training scheduled within three 15-week semesters and one 7-week semester

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

Admission to this program is reserved for eligible applicants meeting the following additional non-academic requirements:

1. Qatari nationality
2. Males born of Qatari mothers or fathers
3. Under 26 years old
4. Documented medical fitness as determined by QatarEnergy Standard Medical Test
5. Clearances from:
   - Ministry of Administrative Development, Labor and Social Affairs (ADLSA)
   - Ministry of the Interior (MOI)
   - General Headquarters Qatar Air Force (GHQAF)
6. Approval from Director of Administration (DA)
7. Sponsorship from any company within Qatar's energy sector.

Technician Certificate - Instrumentation (T. Cert. Instr)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Instrumentation (T.Cert. Instr), graduates will be able to:

PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Instrumentation (T.Cert. Instr), graduates will be able to:

SLO01. Calibrate and maintain instrument components used to control or measure level, pressure, flow and temperature
SLO02. Consult manufacturers' manuals to determine testing and maintenance procedures
SLO03. Program and test basic Programmable Logic Controller applications
SLO04. Use pneumatic, electrical, and electronic testing devices to inspect and test plant instruments
SLO05. Read and interpret instrumentation drawings
SLO06. Configure control loops using a Distributed Control System
SLO07. Work as a member of a team to perform a variety of technical Projects and tasks
SLO08. Apply safe work practices and personal protection

Technician Certificate - Instrumentation (T. Cert. Instr)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1100	General English I	FTEN1020 & FTEN1021 OR Min Score on AEP	-	0	225	0
FTMA1100	Technician Mathematics I	-	-	0	75	0
TCCO1110	Health, Safety, & Environment	-	-	2	18	42
TCCO1120	Hand Tools	-	TCCO1110	1	13	32
TCCO1130	Power Tools	-	TCCO1110 TCCO1120	1	13	32
WORKPLACE FAMILIARIZATION (3 WEEKS)						
TCCO1100	Workplace Orientation	-	-	0	0	0
			Semester 1 Total:	**4**	**344**	**106**
SEMESTER 2 (15 WEEKS)						
FTEN1200	General English II	FTEN1100	-	0	150	0
FTMA1200	Technician Mathematics II	FTMA1100	-	0	75	0
TCIN2110	Electrical Circuits	TCCO1110 TCCO1120	-	1	13	32
TCIN2120	Process Control Fundamentals	TCCO1110 TCCO1120 FTMA1100	-	2	18	42
TCIN2130	Instrumentation Drawings	TCCO1110 TCCO1120 TCCO1130	-	2	18	42
TCIN2140	Electronic Circuits	TCCO1110 TCCO1120	TCIN2110	2	18	42
			Semester 2 Total:	**7**	**292**	**158**
SEMESTER 3 (7 WEEKS)						
TCIN2210	Instrument Air Supply System	TCCO1110 TCCO1120 TCCO1130 TCIN2130	-	1	13	32
TCIN2220	Pneumatic Components & Valves	TCCO1110 TCCO1120 TCCO1130 TCIN2120 TCIN2130	TCIN2210	1	13	32
TCIN2230	Pressure Control Loop	TCCO1110 TCCO1120 TCIN2130	TCIN2220	2	24	56
TCIN2240	Process Control Tuning	TCCO1110 TCCO1120 FTMA1200	TCIN2230	1	12	28
			Semester 3 Total:	**5**	**62**	**148**
			Year 1 Total:	**16**	**698**	**412**

Technician Certificate - Instrumentation (T. Cert. Instr)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 4 (15 WEEKS)						
TCIN2310	Level Control Loop	TCCO1110 TCCO1120 TCIN2110 TCIN2120 TCIN2220 TCIN2130 TCIN2240	-	1	15	35
TCIN2320	Flow Control Loop	TCCO1110 TCCO1120 FTMA1200 TCIN2110 TCIN2120 TCIN2130 TCIN2220 TCIN2230 TCIN2240	TCIN2310	1	15	35
TCIN2330	Temperature Control Loop	TCCO1110 TCCO1120 TCIN2110 TCIN2120 TCIN2130 TCIN2220 TCIN2240	-	1	15	35
TCIN2340	Advanced Control Loops	TCCO1110 TCCO1120 TCIN2110 TCIN2120 TCIN2230	TCIN2310 TCIN2320 TCIN2330	2	24	56
TCIN2350	PLC I	TCCO1110 TCCO1120 TCIN2110 TCIN2140 TCIN2230	TCIN2310 TCIN2320 TCIN2330	2	22	53
TCIN2360	DCS - Fieldbus	TCCO1110 TCIN2230 TCIN2240 FTMA1200	TCIN2310 TCIN2320 TCIN2330 TCIN2350	2	25	60
Elective: Select 1 of 3						
TCIN2311	Online Analytical Instruments	TCCO1110 TCCO1120 TCCO1130 TCIN2110 TCIN2140 FTMA1100	-	1	9	21
TCIN2321	Fire and Gas Alarm Systems	TCCO1110 TCCO1120 TCCO1130 TCIN2110 TCIN2140	-	1	9	21
TCIN2331	Rotating Machinery Vibration	TCCO1110 TCIN2130 TCIN2110 TCIN2140	-	1	9	21
Elective: Select 1 of 3						
TCIN2311	Online Analytical Instruments	TCCO1110 TCCO1120 TCCO1130 TCIN2110 TCIN2140 FTMA110	-	1	9	21
TCIN2321	Fire and Gas Alarm Systems	TCCO1110 TCCO1120 TCCO1130 TCIN2110 TCIN2140	-	1	9	21
TCIN2331	Rotating Machinery Vibration	TCCO1110 TCIN2130 TCIN2110 TCIN2140	-	1	9	21
WORKPLACE FAMILIARIZATION (24 WEEKS)						
TCIN3100	Worksite Practicum	-	-	24	0	0
			Semester 4 Total:	**35**	**134**	**316**
			Year 2 Total:	**35**	**134**	**316**
			T. Cert. Instr Total:	**51**	**832**	**728**

Technician Certificate - Instrumentation (T. Cert. Instr)

Graduate Future Pathways:

Graduates of the Technician Certificate - Instrumentation (T. Cert. Instr) may choose to continue their studies and receive advanced entry into the Diploma in Automation and Control Engineering Technology (Dip. ACET) program.

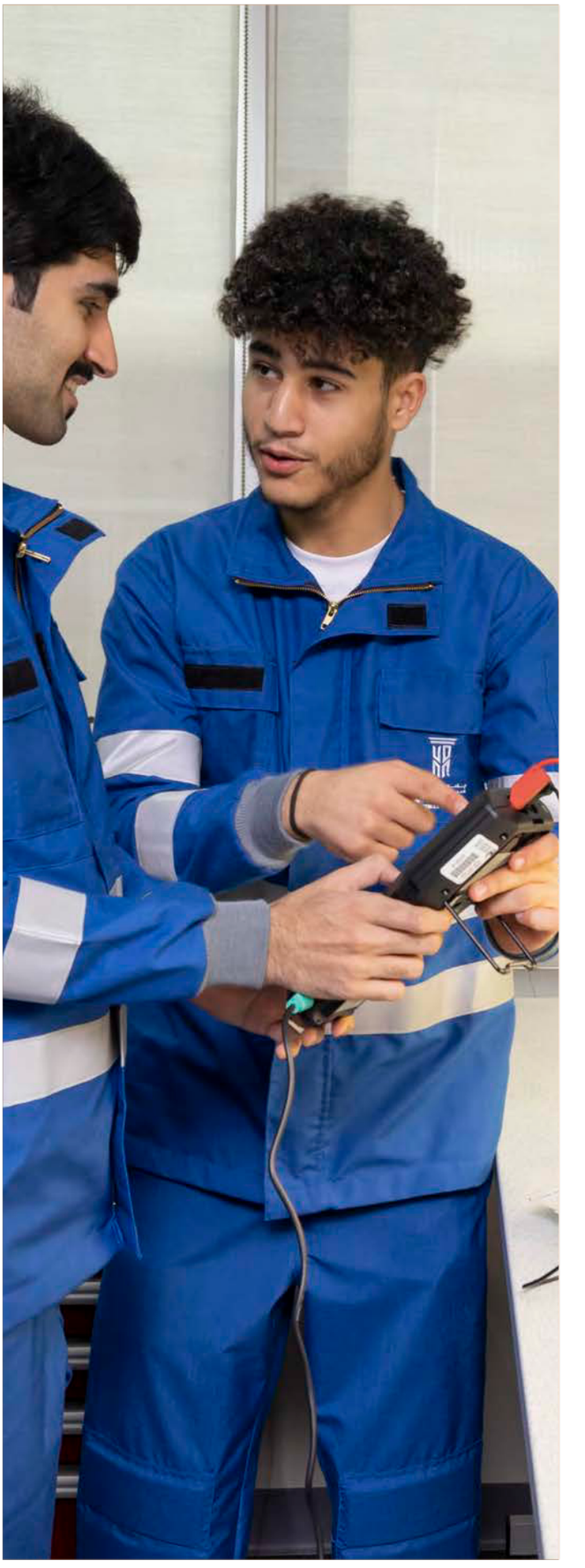
Graduate Career Opportunities:

The Technician Certificate - Instrumentation (T. Cert. Instr) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Process Control Technician
- Instrumentation Technician
- Quality Assurance Inspector

Program Webpage:

Click Here



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Technician Certificate - Mechanical (T. Cert. Mech)

Program Description:

A mechanical technician installs, maintains, and repairs rotating and static industrial machinery and mechanical equipment. Working in Qatar's energy sector, a mechanical technician reads and interprets technical drawings, installs, aligns, and dismantles mechanical equipment, and operates various devices and machine tools. Mechanical technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Mechanical (T. Cert. Mech) prepares graduates for entry into a career as technicians in the mechanical field within Qatar's Energy sector. The program is competency based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Mechanical program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

Admission to this program is reserved for eligible applicants meeting the following additional non-academic requirements:

1. Qatari nationality
2. Males born of Qatari mothers or fathers
3. Under 26 years old
4. Documented medical fitness as determined by QatarEnergy Standard Medical Test
5. Clearances from:
   - Ministry of Administrative Development, Labor and Social Affairs (ADLSA)
   - Ministry of the Interior (MOI)
   - General Headquarters Qatar Air Force (GHQAF)
6. Approval from Director of Administration (DA)
7. Sponsorship from any company within Qatar's energy sector.

Technician Certificate - Mechanical (T. Cert. Mech)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Mechanical (T.Cert. Mech), graduates will be able to:

PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student leaning outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Mechanical (T.Cert. Mech), graduates will be able to:

SLO01. Disassemble, reassemble, replace, repair, and maintain machinery and mechanical equipment using hand and power tools
SLO02. Conduct maintenance procedures on rotating and static mechanical equipment
SLO03. Read and interpret technical drawings
SLO04. Work as a member of a team in a variety of technical projects and tasks
SLO05. Apply safe work practices and personal protection

Technician Certificate - Mechanical (T. Cert. Mech)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1100	General English I	FTEN1020 & FTEN1021 OR Min Score on AEP	-	0	225	0
FTMA1100	Technician Mathematics I	-	-	0	75	0
TCCO1110	Health, Safety, & Environment	-	-	2	18	42
TCME1110	Hand Tools	-	TCCO1110	1	13	32
TCME1120	Precision Measuring Tools	TCCO1110 TCME1110	-	1	13	32
WORKPLACE FAMILIARIZATION (3 WEEKS)						
TCCO1100	Workplace Orientation	-	-	0	0	0
			Semester 1 Total:	**4**	**344**	**106**
SEMESTER 2 (15 WEEKS)						
FTEN1200	General English II	FTEN1100	-	0	150	0
FTMA1200	Technician Mathematics II	FTMA1100	-	0	75	0
TCME2110	Technical Drawings	TCCO1110 FTMA1100	-	2	21	49
TCME2120	Machine Tools	TCCO1110	TCME1120	3	31	74
TCME2130	Engineering Materials	TCCO1110 TCME1110	-	1	15	35
			Semester 2 Total:	**6**	**292**	**158**
SEMESTER 3 (7 WEEKS)						
TCME2210	Pipes, Gaskets & Threads	TCCO1110 TCME1110 TCME1120 TCME2110	-	2	21	49
TCME2220	Valves	TCCO1110 TCME1110 TCME1120 TCME2110		2	18	42
TCME2230	Heat Exchangers	TCCO1110 TCME1110 TCME1120 TCME2110	TCME2130	1	15	35
TCME2240	Filters & Strainers	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	9	21
			Semester 3 Total:	**6**	**63**	**147**
			Year 1 Total:	**16**	**699**	**411**

Technician Certificate - Mechanical (T. Cert. Mech)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 4 (15 WEEKS)						
TCME2310	Bearings and Lubrication	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	15	35
TCME2320	Couplings	TCCO1110 TCME1110 TCME1120 TCME2110	-	2	18	42
TCME2330	Seals	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	15	35
TCME2340	Pump Maintenance	TCME1110 TCME1120 TCME2110 TCME2310	TCME2320 TCME2330	2	18	42
TCME2350	Compressors	TCCO1110 TCME1110 TCME1120 TCME2110	TCME2320 TCME2370	1	15	35
TCME2360	IC Engines	TCCO1110 TCME1110 TCME1120 TCME2110	TCME2320	2	18	42
TCME2370	Maintenance Procedures	TCCO1110 TCME1110	-	1	9	21
TCME2380	Condition Monitoring Systems	TCCO1110 TCME2370	-	1	9	21
Elective: Select 1 of 4						
TCME2311	Basic Static Equipment	TCCO1110 TCME2110	-	1	9	21
TCME2321	Turbo Expanders	TCCO1110 TCME2110	-	1	9	21
TCME2331	Gas Turbines	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	9	21
TCME2341	Hydraulics	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	9	21
Elective: Select 1 of 4						
TCME2311	Basic Static Equipment	TCCO1110 TCME2110	-	1	9	21
TCME2321	Turbo Expanders	TCCO1110 TCME2110	-	1	9	21
TCME2331	Gas Turbines	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	9	21
TCME2341	Hydraulics	TCCO1110 TCME1110 TCME1120 TCME2110	-	1	9	21
WORKPLACE FAMILIARIZATION (24 WEEKS)						
TCME3100	Worksite Practicum	-	-	24	0	0
			Semester 4 Total:	**37**	**135**	**315**
			Year 2 Total:	**37**	**135**	**315**
			T. Cert. Mech Total:	**52**	**834**	**726**

Technician Certificate - Mechanical (T. Cert. Mech)

Graduate Future Pathways:

Graduates of the Technician Certificate - Mechanical (T. Cert. Mech) may choose to continue their studies and receive advanced entry into the Diploma in Mechanical Engineering Technology (Dip. MET) program.

Graduate Career Opportunities:

The Technician Certificate - Mechanical (T. Cert. Mech) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Industrial Mechanic Technician
- Junior Maintenance Mechanic
- Junior Equipment Calibrator

Program Webpage:

Click Here

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Program Description:

A process operator technician monitors, adjusts, operates, and maintains processing units and equipment in industrial plants. Working in Qatar's energy sector, a process operator diagnoses and solves problems related to systems operations in petroleum, natural gas processing, petrochemical, industrial, agricultural, specialty chemical, and pharmaceutical companies. The Technician Certificate - Process Operations (T. Cert. Proc. Op) prepares graduates for entry into a career as technicians in the process operations field within Qatar's Energy sector. The program is competency-based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week work site practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Process Operations program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

Admission to this program is reserved for eligible applicants meeting the following additional non-academic requirements:

1. Qatari nationality
2. Males born of Qatari mothers or fathers
3. Under 26 years old
4. Documented medical fitness as determined by QatarEnergy Standard Medical Test
5. Clearances from:
   - Ministry of Administrative Development, Labor and Social Affairs (ADLSA)
   - Ministry of the Interior (MOI)
   - General Headquarters Qatar Air Force (GHQAF)
6. Approval from Director of Administration (DA)
7. Sponsorship from any company within Qatar's energy sector.

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Process Operations (T.Cert. Proc.Op), graduates will be able to:

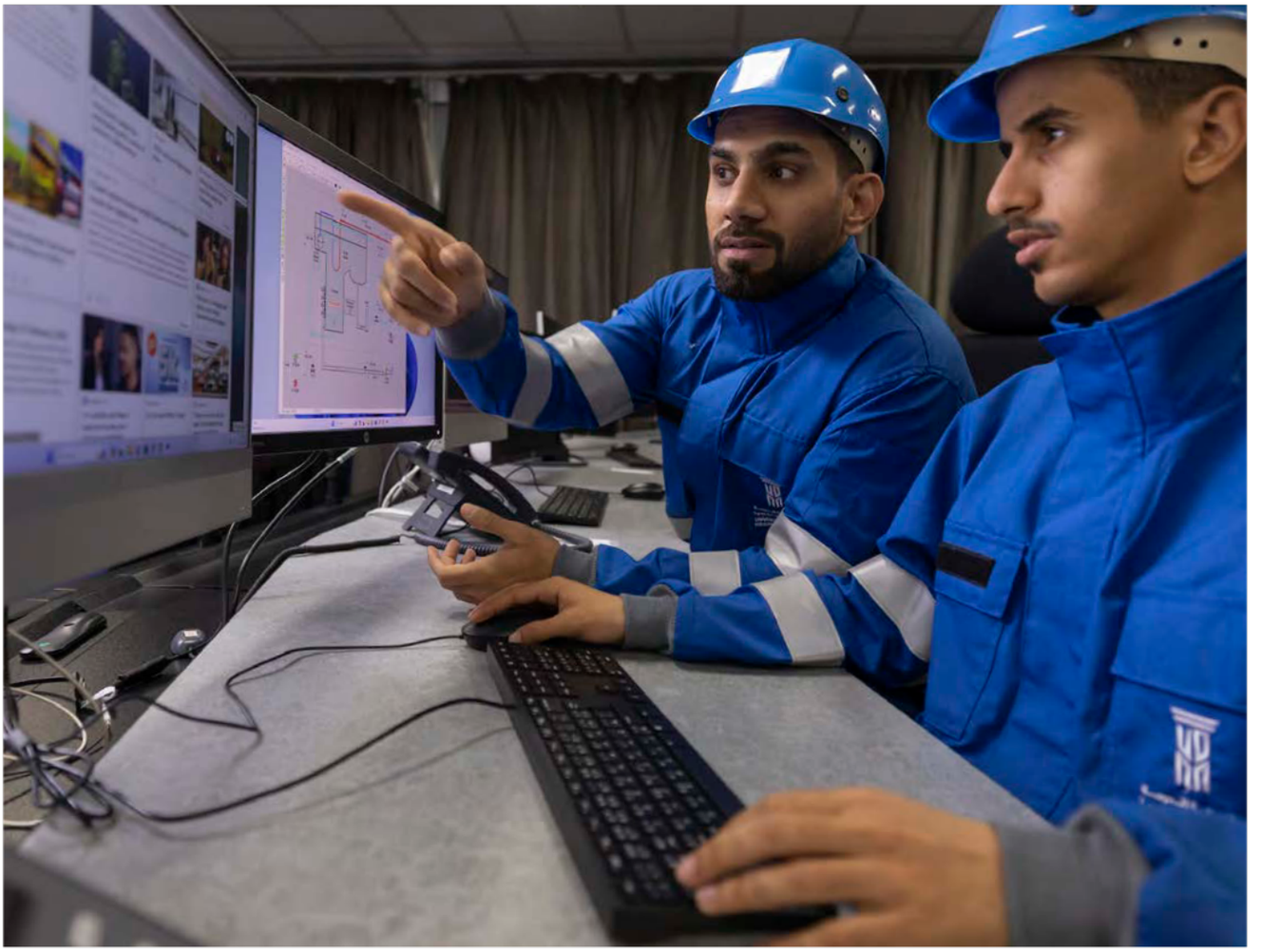
PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate – Process Operations (T.Cert. Proc.Op), graduates will be able to:

SLO01. Read and interpret process diagrams
SLO02. Read process variables from instruments and gauges showing pressure, flow, level, temperature and other properties
SLO03. Operate and adjust process control systems
SLO04. Monitor and adjust static and rotary equipment, valves, pumps, and controls
SLO05. Work as a member of a team to perform a variety of technical projects and tasks
SLO06. Apply safe work practices and personal protection



Technician Certificate – Process Operations (T. Cert. Proc.Op)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1100	General English I	FTEN1020 & FTEN1021 OR Min Score on AEP	-	0	225	0
FTMA1100	Technician Mathematics I	-	-	0	75	0
TCCO1110	Health, Safety, & Environment	-	-	2	18	42
TCPO1110	Operator Responsibilities	-	TCCO1110	0	6	14
TCPO1120	Process Physics	-	FTMA1100	1	9	21
TCPO1130	Pipework Systems	-	TCCO1110 TCPO1110	1	12	28
WORKPLACE FAMILIARIZATION (3 WEEKS)						
TCCO1100	Workplace Orientation	-	-	0	0	0
			Semester 1 Total:	**4**	**345**	**105**
SEMESTER 2 (15 WEEKS)						
FTEN1200	General English II	FTEN1100	-	0	150	0
FTMA1200	Technician Mathematics II	FTMA1100	-	0	75	0
TCPO2110	Valve Systems	TCCO1110 TCPO1110	-	1	10	25
TCPO2120	Process Water Systems	TCCO1110 TCPO1110	-	1	12	28
TCPO2130	Steam Systems	TCCO1110	TCPO2120	0	6	14
TCPO2140	Electricity Supply Systems	TCCO1110 TCPO1110	-	0	6	14
TCPO2150	Heat Exchangers	TCCO1110 TCPO1110 TCPO1130	TCPO2110	1	9	21
TCPO2160	Pump Operation	TCCO1110 TCPO1110 TCPO1130	TCPO2110	1	12	28
TCPO2170	Prime Movers	TCCO1110 TCPO1110	-	1	12	28
			Semester 2 Total:	**5**	**292**	**158**
SEMESTER 3 (7 WEEKS)						
TCPO2210	Utility Gasses and Compressors	TCCO1110 TCPO1110 TCPO1120 TCPO1130	-	2	22	53
TCPO2220	Storage of Liquids and Gases	TCCO1110 TCPO1120 TCPO1130 TCPO2110	-	1	9	21
TCPO2230	Process Diagrams	TCCO1110 TCPO1110	-	1	9	21
TCPO2240	Heating Furnaces	TCCO1110 TCPO1120 TCPO1130 TCPO2110	-	1	12	28
TCPO2250	Pollution & Control	TCCO1110	-	1	10	25
			Semester 3 Total:	**6**	**62**	**148**
			Year 1 Total:	**15**	**699**	**411**

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 4 (15 WEEKS)						
TCPO2310	Process Instrumentation	TCCO1110 TCPO2110 TCPO1120 TCPO1130	-	1	15	35
TCPO2320	Process Control Systems	TCCO1110 TCPO2110 TCPO1120 TCPO1130	-	1	15	35
TCPO2330	Reactors	TCCO1110 TCPO2110 TCPO1120 TCPO1130	TCPO2310 TCPO2320	2	18	42
TCPO2340	Distillation Systems	TCCO1110 TCPO1120 TCPO1130 TCPO2110 TCPO2160	TCPO2310 TCPO2320	1	15	35
TCPO2350	Gas Absorption Dehydration	TCCO1110 TCPO2110 TCPO1120 TCPO1130	TCPO2310 TCPO2320	2	18	42
TCPO2360	Refrigeration & Liquefaction	TCCO1110 TCPO1120 TCPO1130 TCPO2110 TCPO2210	TCPO2310 TCPO2320	2	18	42
TCPO2370	Troubleshooting Techniques	TCCO1110	-	2	18	42
Elective 1: Select 1 of 10						
TCPO2311	Turbo Expanders	TCPO1130 TCPO2110	-	1	9	21
TCPO2321	Condensate & Tail End Gas	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2331	Hydrogen Production	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2341	Steam Turbine Units	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2351	Sulphur Recovery & Tail Gas	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2361	Gas Turbines	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2371	LNG Plant Operations	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2381	Gas to Liquids Operations	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2391	Oil & Gas Separation	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2301	Acid Gas Removal	TCCO1110	TCPO2310 TCPO2320 TCPO2350 TCPO2340 TCPO2360	1	9	21

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
Elective 2: Select 1 of 10						
TCPO2311	Turbo Expanders	TCPO1130 TCPO2110	-	1	9	21
TCPO2321	Condensate & Tail End Gas	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2331	Hydrogen Production	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2341	Steam Turbine Units	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2351	Sulphur Recovery & Tail Gas	TCCO1110 TCPO2220 TCPO2240	TCPO2310 TCPO2320 TCPO2330	1	9	21
TCPO2361	Gas Turbines	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2371	LNG Plant Operations	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2381	Gas to Liquids Operations	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2391	Oil & Gas Separation	TCCO1110 TCPO1120 TCPO1130 TCPO2110	TCPO2310 TCPO2320	1	9	21
TCPO2301	Acid Gas Removal	TCCO1110	TCPO2310 TCPO2320 TCPO2350 TCPO2340 TCPO2360	1	9	21
WORKPLACE FAMILIARIZATION (24 WEEKS)						
TCPO3100	Worksite Practicum	-	-	24	0	0
			Semester 4 Total:	**37**	**135**	**315**
			Year 2 Total:	**37**	**135**	**315**
			T. Cert. Proc.Op Total:	**52**	**834**	**726**

Graduate Future Pathways:

Graduates of the Technician Certificate – Process Operations (T. Cert. Proc.Op) may choose to continue their studies and receive advanced entry into the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program.

Graduate Career Opportunities:

The Technician Certificate – Process Operations (T. Cert. Proc.Op) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Refinery Process Technician
- Chemical Process Operator
- Junior Oil Refinery Process Operator

Program Webpage:

Click Here

SCHEMATIC PAGE 2
SUPERHEATED
STEAM BOILER
STEAM HEADER
106.8
MWATT
USERS
375.0 KKG/H
FIC-601
410.2
DEG C
TIC-104
50.0 % VLV
HIC-102
250.3
KKG/H
FI-401
2 OTHER
BOILERS
49.00 BARG
PIC-501
BFW
STACK
211.9 DEG C
TI-102
51.68 BARG
PI-101
STEAM DRUM
FUEL
HIC-401
66.7 %BIAS
LIC-101
50.0
% LVL
TI-202
147.8
DEG C
HIC-301
3.3 %BIAS
0.556
SP GR
6375
KG/H
FUEL
ECONOMIZER
MUD DRU
125.0
M3/HR
FIC-101
BFW
TI-101
105.0
DEG C
0.0
M3/HR
FIC-103
AIR

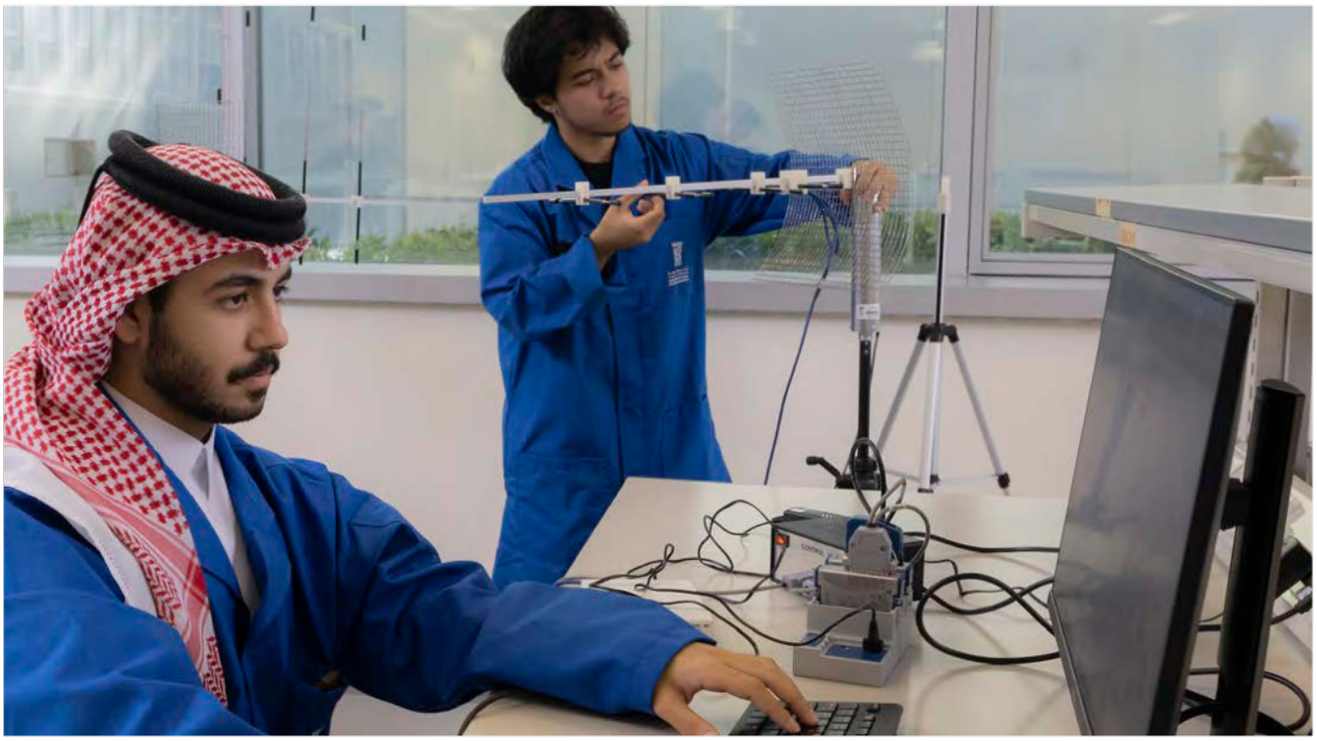
Technician Certificate (TC) Programs

The Technician Certificate (TC) programs offered by the College of Engineering and Technology (CET) are designed to prepare graduates for entry level maintenance and operations personnel within the Original Equipment Manufacturers (OEM) and as Senior Technicians. Graduates will be equipped with the knowledge and skills to prepare them to work responsibly and safely as team members in their chosen field.

There are three (3) different TC specializations: Electronics and Telecommunications Systems, Electro-Mechanic Operation and Maintenance, and Automated Test Equipment Maintenance. The College of Engineering and Technology onsite machine shops and laboratories provide advanced, state-of-the-art education and training. These are equipped with the latest technical equipment, simulation labs and workshop facilities.

Technician Certificate (TC) program students will experience a blended learning environment, which applies advanced technical and computer technologies, practical skills-based training, traditional learning methods, and e-learning. Students who successfully complete the program will receive a Technician Certificate. After acquiring on the job experience, graduates may choose to continue their studies at UDST receiving a specified number of transfer credits toward a diploma in the College of Engineering and Technology.

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)



Program Description:

Technicians in electronics and telecommunications install, operate, test and repair electrical equipment and electronic controls. Working in Qatar's naval forces, electronics and telecommunications systems technicians carry out routine maintenance checks, ensuring that the testing and calibration of equipment is conducted according to standard operating procedures and manufacturers' guidelines. Naval electronics and telecommunications technicians generally work in the electronics and telecommunications departments of ships, and/or naval-related base units.

The applied Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS) prepares graduates for entry into a career in electronics and telecommunications systems in the State of Qatar Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles are reinforced and embedded throughout every course and technical tasks are completed during the program.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

   NOTE: Depending on the demonstrated strength of their English proficiency, applicants may be considered on an individual basis for an alternate plan of study which will include individualized remedial English language training.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

1. Strenuous physical dexterity is required for this program. Employers will typically require applicants to undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), graduates will be able to:

PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), graduates will be able to:

SLO01. Describe the basic operating principles and applications of electrical and electronic circuits
SLO02. Use basic drawings to create and trace electric circuits
SLO03. Install, examine, replace, and repair electrical wiring.
SLO04. Test electrical and electronic equipment
SLO05. Connect and operate UPSs and inverters following safe procedures
SLO06. Conduct preventative maintenance procedures to switchgears, transformers, electric motors, generators, and electrical control systems
SLO07. Describe the fundamentals of radio frequency, radar, and microwave systems
SLO08. Explain how antennas and transmitters work in wireless data communication systems.
SLO09. Work as a team member for a variety of technical projects and tasks
SLO10. Apply safe work practices and maintain high standards of personal protection

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1110	Technical English I	Min Score on AEP	-	0	0	225
FTMA1110	Preparatory Mathematics I	-	-	0	0	75
TRCO1110	Workplace Safety	-	-	2	15	30
TRCO1120	Fabrication Hand Tools	-	TRCO1110	1	0	45
TRCO1130	Power Tools	-	TRCO1110 TRCO1120	1	0	45
			Semester 1 Total:	**4**	**15**	**420**
SEMESTER 2 (7 WEEKS)						
FTEN1210	Technical English II	FTEN1110	-	0	0	105
FTMA1210	Preparatory Mathematics II	FTMA1110	-	0	0	35
TRCO1210	Basic DC Theory I	TRCO1110	-	2	20	50
			Semester 2 Total:	**2**	**20**	**190**
SEMESTER 3 (7 WEEKS)						
FTEN1310	Technical English III	FTEN1210	-	0	0	105
FTMA1310	Preparatory Mathematics III	FTMA1210	-	0	0	35
TRCO1330	Basic DC Theory II	TRCO1110 TRCO1210	-	1	10	30
TRCO1340	Electrical Drawings	TRCO1210	TRCO1330	1	10	20
			Semester 3 Total:	**2**	**20**	**190**
SEMESTER 4 (15 WEEKS)						
FTEN1410	Technical English IV	FTEN1310	-	0	0	225
TRCO1420	Single-Phase Electricity	TRCO1210	-	2	20	50
TRCO1430	Three-Phase Electricity	-	TRCO1420	2	20	40
TRCO1440	Conductors & Cables	TRCO1120 TRCO1130	TRCO1420	1	10	30
TRCO1450	Electrical Circuits	TRCO1130	-	1	10	30
			Semester 4 Total:	**6**	**60**	**375**
			Year 1 Total:	**14**	**115**	**1175**

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 5 (15 WEEKS)						
TRCO1510	Electrical Transformers	TRCO1340 TRCO1430	-	2	15	35
TRCO1520	Three-Phase Induction Motors	TRCO1120 TRCO1130 TRCO1340 TRCO1430	-	1	10	30
TRCO1530	Single-Phase Induction Motors	-	TRCO1520	1	10	20
TRCO1540	Alternating Current Generators	-	-	2	15	35
TRCO1550	Direct Current Motors	-	TRCO1530	1	10	40
TRCO1560	Circuit Breakers and Fuses	TRCO1110	-	1	10	35
TRCO1570	Relays and Contactors	TRCO1340	-	1	10	35
TRCO1580	UPS & Inverters	-	TRCO1560 TRCO1570	2	15	35
TRCO1590	Hazardous Areas	TRCO1110 TRCO1210 TRCO1330 TRCO1340	-	1	0	30
TRET1510	Electro-Technology	-	-	1	20	10
TRET1520	Digital Electronics	TRCO1210 TRCO1330 TRCO1420	-	1	15	15
			Semester 5 Total:	**14**	**130**	**320**
SEMESTER 6 (7 WEEKS)						
TRET1610	Electronic Circuits (Analogue)	TRCO1450 TRCO1580	-	1	20	10
TRET1620	Radio Frequency Fundamentals	-	-	3	30	30
TRET1630	Antennas & Transmitters	TRCO1110 TRCO1590	TRET1620	1	20	10
TRET1640	Radar Principles	-	-	2	30	15
TRET1650	Microwave System Applications	-	TRET1620 TRET1630	2	30	15
			Semester 6 Total:	**9**	**130**	**80**
SEMESTER 7 (8 WEEKS)						
TRET1710	Electronic Signals & Systems	TRET1620 TRET1630 TRET1640 TRET1650		3	30	30
TRET1720	HF, UHF & MW Communications	TRET1620 TRET1630 TRET1650	TRET1710	3	30	30
TRET1730	Radar & EO Sensor Systems	TRET1620 TRET1630 TRET1640	-	3	30	30
TRET1740	Troubleshooting Communications	TRET1620 TRET1630 TRET1650	TRET1710 TRET1720	3	30	30
			Semester 7 Total:	**12**	**120**	**120**
			Year 2 Total:	**35**	**380**	**520**
			T. Cert. Elec.TS Total:	**49**	**495**	**1695**

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Graduate Future Pathways:

Graduates of the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), may choose to continue their studies and receive advanced entry into the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program.

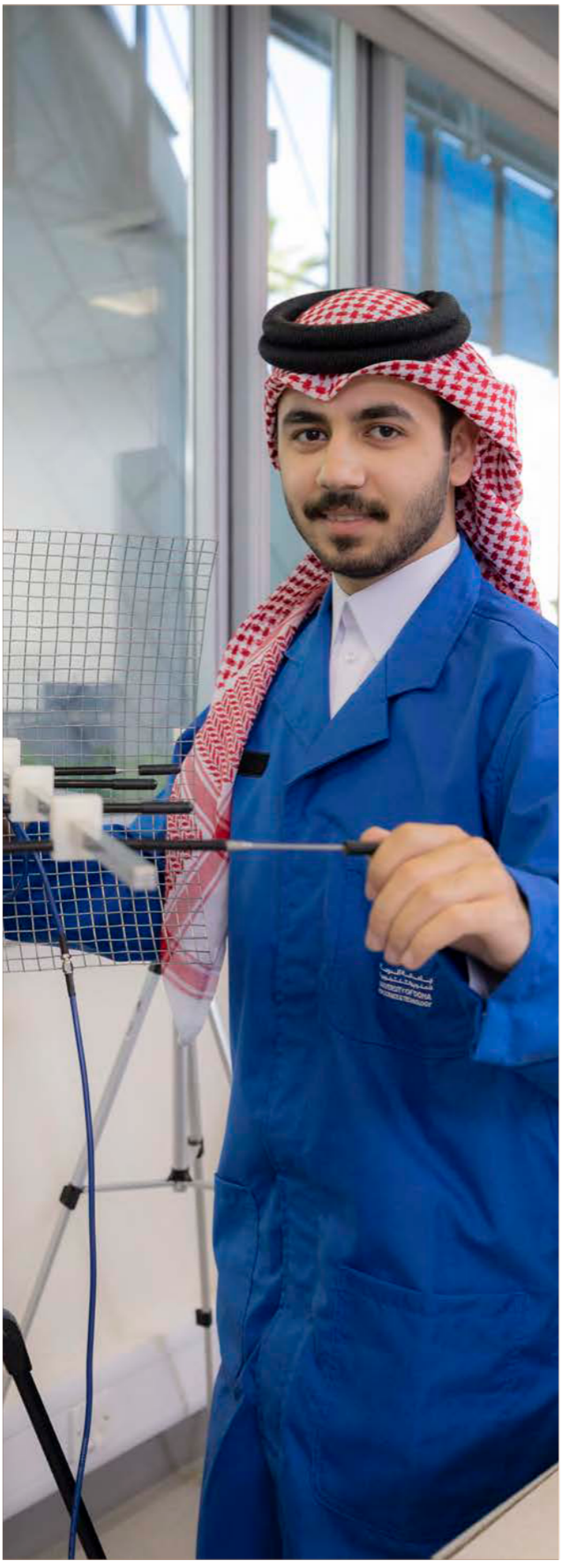
Graduate Career Opportunities:

The Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Junior Telecommunications Technician
- Electronics Technician
- Radar Technician

Program Webpage:

Click Here



Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Program Description:

Entry-level electro-mechanic operations and maintenance technicians install, maintain, and repair machinery and mechanical equipment. Working in Qatar's naval forces, electro-mechanic operations and maintenance technicians read and interpret technical drawings, install, align, and dismantle mechanical equipment, and operate various devices and machine tools. They play key roles in pump, internal combustion engine, and compressor maintenance. Electro-mechanic operation and maintenance technicians generally work in various ship's units focusing on preventative maintenance tasks which are required for various test equipment.

The applied, Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM) prepares graduates for careers as entry level electro-mechanic operators and maintainers in the Qatar Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles will be reinforced and embedded throughout every course and technical tasks will be completed during the program.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:
1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%
English Language Requirement:
1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR 2. Successful completion of Foundation program requirements. NOTE: Depending on the demonstrated strength of their English proficiency, applicants may be considered on an individual basis for an alternate plan of study which will include individualized remedial English language training.
Mathematics Requirement:
1. Completion of the University Math Placement Test (GMP).
Additional Admission Criteria:
1. Industry sponsorship is required for admission to this program.
Additional Program Information:
1. Strenuous physical dexterity is required for this program. Employers will typically require applicants to undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM), graduates will be able to:

PEO01. Contribute to problem-solving within their work area.
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM), graduates will be able to:

SLO01 Read and interpret technical drawings
SLO02. Use hand tools as required. PO03. Use common power tools in industrial operations and maintenance to perform given tasks
SLO04. Describe principles of electrical circuits
SLO05. Describe how to use and manipulate formulas to analyze circuits
SLO06. Describe how to safely perform routine electrical measurements
SLO07. Operate hoisting and lifting devices
SLO08. Assemble, replace, repair, and maintain machinery and mechanical equipment using hand and power tools
SLO09. Follow standard operating procedures in performing plant maintenance
SLO10. Conduct preventative maintenance procedures on valves, heat exchangers, filters and strainers, couplings, seals, bearings, pumps, compressors and internal combustion engines
SLO11. Work as a team member for a variety of technical projects and tasks
SLO12. Apply safe work practices and maintain high standards of personal protection

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1110	Technical English I	Min Score on AEP	-	0	0	225
FTMA1110	Preparatory Mathematics I	-	-	0	0	75
TRCO1110	Workplace Safety	-	-	2	15	30
TRCO1120	Fabrication Hand Tools	-	TRCO1110	1	0	45
TRCO1130	Power Tools	-	TRCO1110 TRCO1120	1	0	45
			Semester 1 Total:	**4**	**15**	**420**
SEMESTER 2 (7 WEEKS)						
FTEN1210	Technical English II	FTEN1110	-	0	0	105
FTMA1210	Preparatory Mathematics II	FTMA1110	-	0	0	35
TRCO1210	Basic DC Theory I	TRCO1110	-	2	20	50
			Semester 2 Total:	**2**	**20**	**190**
SEMESTER 3 (7 WEEKS)						
FTEN1310	Technical English III	FTEN1210	-	0	0	105
FTMA1310	Preparatory Mathematics III	FTMA1210	-	0	0	35
TRCO1330	Basic DC Theory II	TRCO1110, TRCO1210	-	1	10	30
TRCO1340	Electrical Drawings	TRCO1210	TRCO1330	1	10	20
			Semester 3 Total:	**2**	**20**	**190**
SEMESTER 4 (15 WEEKS)						
FTEN1410	Technical English IV	FTEN1310	-	0	0	225
TRCO1420	Single-Phase Electricity	TRCO1210	-	2	20	50
TRCO1430	Three-Phase Electricity	-	TRCO1420	2	20	40
TRCO1440	Conductors and Cables	TRCO1120, TRCO1130	TRCO1420	1	10	30
TRCO1450	Electrical Circuits	TRCO1130	-	1	10	30
			Semester 4 Total:	**6**	**60**	**375**
			Year 1 Total:	**14**	**115**	**1175**

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 5 (15 WEEKS)						
TRCO1510	Electrical Transformers	TRCO1340 TRCO1430	-	2	15	35
TRCO1520	Three-Phase Induction Motors	TRCO1120 TRCO1130 TRCO1340 TRCO1430	-	1	10	30
TRCO1530	Single-Phase Induction Motors	-	TRCO1520	1	10	20
TRCO1540	Alternating Current Generators	-	-	2	15	35
TRCO1550	Direct Current Motors	-	TRCO1530	1	10	40
TRCO1560	Circuit Breakers & Fuses	TRCO1110	-	1	10	35
TRCO1570	Relays and Contactors	TRCO1340	-	1	10	35
TRCO1580	UPS and Inverters	-	TRCO1560 TRCO1570	2	15	35
TRCO1460	Power Supplies and Rectifiers	TRCO1330 TRCO1340	-	2	15	35
TREM1510	Mechanical Hand & Power Tools	TRCO1110	-	1	0	30
			Semester 5 Total:	**14**	**110**	**330**
SEMESTER 6 (7 WEEKS)						
TREM1610	Precision Measuring Tools	TRCO1110 TRCO1120 TREM1510	-	1	5	25
TREM1620	Technical Drawings	TRCO1110 TREM1510	-	1	10	30
TREM1630	Limits, Fits, & Tolerances	-	TREM1610 TREM1620	1	24	6
TREM1640	Bearing Maintenance & Lubrication	TREM1510	TREM1610 TREM1620 TREM1630	1	10	40
TREM1650	Maintenance Procedures	-	-	1	15	15
TREM1660	Coupling Maintenance	TREM1510	TREM1610 TREM1620 TREM1650	1	5	25
			Semester 6 Total:	**6**	**69**	**141**
SEMESTER 7 (8 WEEKS)						
TREM1710	Shaft Alignment	TREM1510 TREM1610 TREM1620 TREM1650	-	1	5	25
TREM1720	Seal Maintenance	TREM1510 TREM1610 TREM1620 TREM1660	-	1	5	25
TREM1730	Pump Maintenance	TRCO1120 TREM1620 TREM1650 TREM1660	TREM1720	2	10	50
TREM1740	Compressor Maintenance	TREM1510 TREM1610 TREM1620 TREM1640 TREM1650	TREM1720	2	10	50
TREM1750	IC Engine Maintenance	TREM1510 TREM1610 TREM1620 TREM1650	-	2	10	50
			Semester 7 Total:	**8**	**40**	**200**
			Year 2 Total:	**28**	**219**	**671**
			T. Cert. EMOM Total:	**42**	**334**	**1846**

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Graduate Future Pathways:

Graduates of the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM) may choose to continue their studies and receive advanced entry into the Diploma in Mechanical Technology (Dip. MET) program.

Graduate Career Opportunities:

The Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Junior Mechanical Maintenance Technician
- Apprentice Maintenance Technician
- Mechanical Inspection Technician

Program Webpage:

Click Here

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Program Description:

Automated test equipment maintenance technicians inspect and test munition and munition instruments and machinery to ensure optimal operational availability and safe operation. Working in Qatar's navy, automated test equipment maintenance technicians read and interpret mechanical, electrical, and instrumentation drawings; maintain munition and instrument components to control munitions; perform troubleshooting; diagnose munition problems; and test equipment faults. Automated Test Equipment Maintenance technicians carry out maintenance checks compliant with manufacturers' operating procedures and guidelines.

Focused on electronic and radar applications, Automated Test Equipment Maintenance technicians maintain radio frequency equipment and electronic processing systems. Automated Test Equipment Maintenance technicians play key roles in the navy's munition maintenance departments.

This applied Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM) prepares graduates for a career in the State of Qatar's Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within the College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles will be reinforced and embedded throughout every course and technical tasks will be completed during the program.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 50%

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. Successful completion of Foundation program requirements.

   NOTE: Depending on the demonstrated strength of their English proficiency, applicants may be considered on an individual basis for an alternate plan of study which will include individualized remedial English language training.

Mathematics Requirement:

1. Completion of the University Math Placement Test (GMP).

Additional Admission Criteria:

1. Industry sponsorship is required for admission to this program.

Additional Program Information:

1. Strenuous physical dexterity is required for this program. Employers will typically require applicants to undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Automated Test Equipment Maintenance (T .Cert. AutoTEM), graduates will be able to:

PEO01. Contribute to problem-solving within their work area
PEO02. Distinguish themselves as effective communicators and team members in their profession
PEO03. Model ethical and professional attitudes and behavior
PEO04. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Automated Test Equipment Maintenance (T .Cert. AutoTEM), graduates will be able to:

SLO01. Read and interpret electrical, technical and instrumentation drawings
SLO02. Use hand tools and power tools to perform maintenance tasks
SLO03. Install, examine, and replace electronic and mechanical equipment using appropriate tools and equipment
SLO04. Consult manufacturers' manuals to determine testing and maintenance procedures on munition and test equipment
SLO05. Operate industrial tools according to manufacturers' and safety standards.
SLO06. Test electrical and electronic equipment
SLO07. Connect and operate uninterrupted power supplies and automatic test equipment following safe procedures
SLO08. Use radio frequency principles to perform and determine testing and maintenance procedures
SLO09. Use pneumatic, electrical, and electronic testing devices to inspect and test plant instruments
SLO10. Apply safe work practices and maintain high standards of personal protection
SLO11. Work as a team member for a variety of technical projects and tasks
SLO12. Apply safe work practices and maintain high standards of personal protection

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Study Plan: Year 1

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FTEN1110	Technical English I	Min Score on AEP	-	0	0	225
FTMA1110	Preparatory Mathematics I	-	-	0	0	75
TRCO1110	Workplace Safety	-	-	2	15	30
TRCO1120	Fabrication Hand Tools	-	TRCO1110	1	0	45
TRCO1130	Power Tools	-	TRCO1110 TRCO1120	1	0	45
			Semester 1 Total:	**4**	**15**	**420**
SEMESTER 2 (7 WEEKS)						
FTEN1210	Technical English II	FTEN1110	-	0	0	105
FTMA1210	Preparatory Mathematics II	FTMA1110	-	0	0	35
TRCO1210	Basic DC Theory I	TRCO1110	-	2	20	50
			Semester 2 Total:	**2**	**20**	**190**
SEMESTER 3 (7 WEEKS)						
FTEN1310	Technical English III	FTEN1210	-	0	0	105
FTMA1310	Preparatory Mathematics III	FTMA1210	-	0	0	35
TRCO1330	Basic DC Theory II	TRCO1110 TRCO1210	-	1	10	30
TRCO1340	Electrical Drawings	TRCO1210	TRCO1330	1	10	20
			Semester 3 Total:	**2**	**20**	**190**
SEMESTER 4 (15 WEEKS)						
FTEN1410	Technical English IV	FTEN1310	-	0	0	225
TRCO1420	Single-Phase Electricity	TRCO1210	-	2	20	50
TRCO1430	Three-Phase Electricity	-	TRCO1420	2	20	40
TRCO1440	Conductors and Cables	TRCO1120 TRCO1130	TRCO1420	1	10	30
TRCO1460	Power Supplies and Rectifiers	TRCO1330 TRCO1340	-	1	15	35
			Semester 4 Total:	**6**	**65**	**380**
			Year 1 Total:	**14**	**120**	**1180**

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Year 2

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ COURSE	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 5 (15 WEEKS)						
TRCO1510	Electrical Transformers	TRCO1340 TRCO1430	-	2	15	35
TRCO1520	Three-Phase Induction Motors	TRCO1120 TRCO1130 TRCO1340 TRCO1430	-	1	10	30
TRCO1530	Single-Phase Induction Motors	-	TRCO1520	1	10	20
TRCO1560	Circuit Breakers and Fuses	TRCO1110	-	1	10	35
TRCO1570	Relays and Contactors	TRCO1340	-	1	10	35
TRCO1580	UPS and Inverters	-	TRCO1560 TRCO1570	2	15	35
TRCO1590	Hazardous Areas	TRCO1110 TRCO1210 TRCO1330 TRCO1340	-	1	0	30
TRAT1510	Instrumentation Drawings	TRCO1110	-	1	10	20
TRAT1520	Instrument Air Supply System	TRCO1130	-	1	10	20
TRAT1530	Process Control Fundamentals	TRCO1110	-	2	0	60
TRAT1540	Technical Drawings	TRCO1110 TRCO1120	--	1	10	20
			Semester 5 Total:	**14**	**100**	**340**
SEMESTER 6 (7 WEEKS)						
TRAT1610	Digital Logic Circuits	TRCO1330 TRCO1210	-	1	10	20
TRAT1620	Microprocessor Controllers	TRCO1210 TRCO1330 TRCO1340	TRAT1610	4	30	80
TRAT1630	Pneumatic Components & Valves	TRAT1510 TRAT1520 TRAT1530	-	1	10	20
TRAT1640	Precision, Limits, & Fits	TRCO1110 TRCO1120 TRAT1540	-	2	15	25
			Semester 6 Total:	**8**	**65**	**145**
SEMESTER 7 (8 WEEKS)						
TRAT1710	Pressure Control Loop	TRAT1620 TRAT1630	-	2	15	45
TRAT1720	Pump Operations	TRCO1120 TRAT1510 TRAT1540	-	1	0	30
TRAT1730	Maintenance and Lubrication	-	-	2	20	20
TRAT1740	Intro to RF, MW, & Radar	-	-	5	80	30
			Semester 7 Total:	**10**	**115**	**125**
			Year 2 Total:	**32**	**280**	**610**
			T. Cert. AutoTEM Total:	**46**	**400**	**1790**

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Graduate Future Pathways:

Graduates of the Technician Certificate - Automated Test Equipment Maintenance (T .Cert. AutoTEM) may choose to continue their studies and receive advanced entry into the Diploma in Automation and Control Engineering Technology (Dip. ACET) program.

Graduate Career Opportunities:

The Technician Certificate - Automated Test Equipment Maintenance (T .Cert. AutoTEM) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Automatic Test Equipment Maintenance Technician
- Automated Industrial Technician
- Display Test Technician

Program Webpage:

Click Here

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College of Health Sciences (CHS)

The College of Health Sciences (CHS), University of Doha for Science and Technology (UDST) is recognized as Qatar's premier institution for the development and delivery of world class nursing and allied health programs. Guided by Qatar's National Health Strategy 2018-2022 and Qatar's National Vision 2030 to build a strong and thriving healthcare workforce, the College offers a broad scope of internationally aligned diploma, bachelor, and graduate health programs designed to support health professional licensing and credentialing requirements.

CHS Programs are founded on excellence and innovation in education, best-practice, research/scholarship, service, and industry engagement. Theoretically informed curricula are designed to meet evolving educational needs and innovative pedagogies for diverse learners. Our offering of a broad scope of health science programs lends to embedded interprofessional education. Classes and practical experiences are taught by highly skilled faculty and practitioners who bring current academic and clinical expertise from the real world. Close collaborations with our community and national and international industry partners ensure students gain context relevant educational and practical experiences. Our students, faculty, and external stakeholders engage in research and scholarship to improve person, healthcare, and health system outcomes.

Graduates from the College of Health Sciences are prepared as competent professional practitioners, equipped to practice in diverse local and global health care settings. In addition to gaining discipline specific theoretical and practical competencies, students completing their education at the College of Health Sciences are prepared as global citizens, committed to contribute to the betterment of society. Proficiency gained in information and literacy, ethical behaviors, and scientific inquiry, creates the foundation for critical thinking, evidence-informed decision making, lifelong learning, cultural humility, and respect for Qatari traditions and other cultures.

If you are passionate and committed to advancing the health of individuals, families, and communities, we encourage you to contact us to learn more about our exciting Health Science Programs and becoming a health professional.

كلية العلوم الصحية
College of Health Sciences

جامعة الدوحة للعلوم والتكنولوجيا
UNIVERSITY OF DOHA FOR SCIENCE & TECHNOLOGY

Diploma in Pharmacy Technology (Dip. PT)

Program Description:

The Diploma in Pharmacy Technology (Dip. PT) is a two-year diploma that prepares graduates for licensing as a Pharmacy Technician in Qatar. The Dip. PT program is founded on the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians and the Canadian Council for the Accreditation of Pharmacy Programs (CCAPP) accreditation standards. An integration of classroom theory, laboratory skills, and field experience prepares graduates to practice under the supervision of the pharmacist, to perform medicine distribution and supply roles including the processing of prescriptions, secure storage, assembly, repackaging and compounding of medicines. The Dip. PT prepares graduates for entry-level positions in hospitals, primary health care facilities, clinics, and community pharmacies. Graduates are prepared for future education in the Bachelor of Science in Pharmacy Technology.

Program Duration:

Two years

Accreditation:

The Diploma in Pharmacy Technology (Dip. PT) is accredited by The Canadian Council for Accreditation of Pharmacy Programs. For more information, please visit www.ccapp.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two final year Science courses (Biology and Chemistry) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as scrubs and lab coats are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.

Diploma in Pharmacy Technology (Dip. PT)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Pharmacy Technology (Dip. PT) program, graduates will be able to:

PEO01. Promote the provision of patient-centered care in pharmacy technology practice
PEO02. Utilize methods and techniques to enhance product preparation, drug dispensing and distribution
PEO03. Perform job-related duties responsibly, in accordance with best practices and guidelines; demonstrating competence, ethical practice and professionalism
PEO04. Function effectively as a team leader, mentor and coach, assisting employees with their professional development and career progression
PEO05. Pursue continuous professional learning opportunities and certifications to advance knowledge and competencies in the pharmacy technology field
PEO06. Become a dynamic pharmacy technician, prepared to serve society locally and internationally

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Pharmacy Technology (Dip. PT) program, graduates will be prepared to:

SLO01. Demonstrate required skills, knowledge and abilities outlined by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) and aligned to the scope of practice for entry level pharmacy technicians as outlined by the Ministry of Health in Qatar
SLO02. Demonstrate safe and aseptic practice within the legal framework of the National Regulations
SLO03. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
SLO04. Describe effective pharmacy management, business principles, and inventory control
SLO05. Recognize the importance of continuing education and professional affiliations
SLO06. Use problem-solving skills which promote independent decision making in the practice of a pharmacy technician

Diploma in Pharmacy Technology (Dip. PT)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSPT1101	Pharmaceutical Calculations I	-	-	3	3	0
				Semester 1 Total:	14	12	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HSPT1201	Pharmacy Computer Systems	-	-	3	2	3
	HSPT1202	Pharmaceutical Calculations II	HSPT1101	-	3	3	0
	HSPT1203	Pharmacy Management & Inventory Control	-	-	3	3	0
				Semester 2 Total:	16	14	6
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSPT1301	Pharmacy Regulations & Professionalism	-	-	3	3	0
	HSHG2080	Ethics in Health Care	-	-	3	3	0
				Semester 3 Total:	9	9	0
				Year 1 Total:	39	35	12

Diploma in Pharmacy Technology (Dip. PT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSPT2101	Prescription Processing	HSPT1201 HSPT1202	-	4	2	4
	HSPT2102	Pharmacology I	BIOL1210 BIOL1310	-	5	5	0
	HSPT2103	Community Pharmacy Practice	BIOL1310	-	4	3	3
	HSPT2104	Medication Safety, Quality & Drug Reconciliation	-	-	3	3	0
				Semester 4 Total:	**16**	**13**	**7**
SEMESTER 5	HSPT2201	Hospital Pharmacy Practice	HSPT1201 HSPT1202	-	3	2	3
	HSPT2202	Aseptic Technique	HSPT1201 HSPT1202	-	4	2	6
	HSPT2203	Pharmacology II	HSPT2102	-	5	5	0
	HSPT2204	Nonsterile Compounding	HSPT1201 HSPT1202	-	3	2	3
				Semester 5 Total:	**15**	**11**	**12**
SEMESTER 6	HSPT2300	Clinical Work Term	HSPT2201 HSPT2202 HSPT2203 HSPT2204	-	6	360 Total HRs	
				Semester 6 Total:	**6**	**0**	**0**
				Year 2 Total:	**37**	**24**	**19**
				Dip. PT Program Total:	**76**	**59**	**31**

Graduate Future Pathways:

Graduates of the Diploma in Pharmacy Technology (Dip. PT) program may choose to continue their studies and complete the Bachelor of Science in Pharmacy Technology (B.Sc. PT) program.

Graduate Career Opportunities:

Graduates find employment in both Hospital and Community Pharmacy Settings. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Clinical Pharmacy Technician
- Insurance Company Clerk
- Pharmacist Assistant
- Hospital Pharmacy Technician
- Community Pharmacy Technician
- Retail Pharmacy Clerk
- Home Health Care Assistant
- Pharmaceutical Research Assistant

Program Webpage:

Click Here

Diploma in Practical Nursing (Dip. PN)

Program Description:

The Diploma in Practical Nursing (Dip. PN) is a two-year health profession program that prepares graduates for licensing as an entry-level associate nurse in Qatar. The Dip. PN program is founded on internationally recognized educational accreditation standards and Canadian entry-level nursing competences. An integration of theory with extensive application in laboratory, simulation, and diverse clinical practice experiences prepare graduates to join the nursing workforce as autonomous, safe and competent entry-level practitioners. The Dip. PN prepares graduates with foundational knowledge, skills, and professional judgement to practice in public and private primary and ambulatory health care centres, community clinics, physician offices, schools, and hospitals.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus three courses, each with a Minimum of 60%: one final year Mathematics, one final year Chemistry, and at least one final year Biology or Physics with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. The passing score from another approved internationally recognized English language test as validated by the UDST Admissions and Registration Department; OR
4. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the Student Immunization Form.
2. Documented proof of current Basic Life Support (BLS) for Health Care Providers (Level 3) at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined with the Qatar Minister of Public Health and clinical partners hosting student practicums.

Diploma in Practical Nursing (Dip. PN)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Practical Nursing (Dip. PN) program, graduates will be able to:

PEO01. Demonstrate professional and competent practice in compliance with the Qatar Nurses Standards of Practice for associate nurse
PEO02. Advocate for improved patient outcomes through the use of best evidence and analytical thinking
PEO03. Engage in self-reflection to identify personal levels of competence and areas for growth
PEO04. Demonstrate commitment for life-long learning by engaging in continuous professional learning
PEO05. Contribute to advancing practical nurses as integral members of the nursing profession and healthcare team

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Practical Nursing (Dip. PN) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions
SLO02. Practice within a professional, ethical and legal framework and in consideration of diverse cultural contexts
SLO03. Communicate and collaborate effectively with individuals, families, communities and members of the inter-professional team to provide high quality person- and family-centered care
SLO04. Practice safely and competently in diverse practice settings, incorporating a range of nursing therapeutics for patients with stable and predictable states of health
SLO05. Serve as a global citizen and leverage professional role to advance sustainable development goals
SLO06. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Diploma in Practical Nursing (Dip. PN)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	NUPN1010	Introduction to Practical Nursing	-	-	3	3	0
	NURS1040	Health & Health Systems	-	-	4	3	36 Total HRs
				Semester 1 Total:	**18**	**15**	**6**
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	NURS1010	Introduction to Pathophysiology & Pharmacotherapeutics	BIOL1030 BIOL1031 (NUPN1010 OR NUMW1010 OR NURS1101) & (BIOL1110 OR NUMW1210)	-	4	3	3
	NURS1020	Nursing Therapeutics I	BIOL1030 BIOL1031 BIOL1110 (NUPN1010 OR NURS1101)	-	4	3	3
	NURS1030	Introduction to Health Assessment	BIOL1030 BIOL1031 BIOL1110 (NUPN1010 OR NURS1101)	-	4	3	3
				Semester 2 Total:	**16**	**12**	**12**
SEMESTER 3	NURS1021	Nursing Therapeutics II	NURS1020	-	4	3	3
	NURS1050	Person & Family Centered Practice	Min 34 Credits	-	3	100 Total HRs	3
				Semester 3 Total:	**7**	**3**	**6**
				Year 1 Total:	**41**	**30**	**24**

Diploma in Practical Nursing (Dip. PN)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	NURS2020	Alterations & Therapeutics I	NURS1021 NURS1050	-	4	3	3
	NUPN2020	Theoretical Perspectives of Primary Care for Families	NURS1021 NURS1050	-	3	3	0
	NUPN2030	Theoretical Perspectives of Maternal & Newborn Care	NURS1021 NURS1050	NUPN2050	2	2	0
	NUPN2040	Theoretical Perspectives of Pediatric Health	NURS1021 NURS1050	NUPN2050	2	2	0
	NUPN2050	Practical Nursing Practice for Families	NURS1021 NURS1050	NUPN2030 NUPN2040	3	192 Total HRs	
				Semester 4 Total:	14	10	3
SEMESTER 5	NURS2021	Alterations & Therapeutics II	NURS2020	-	4	3	3
	NUPN2010	Trends & Leadership for Practical Nursing	Min 34 Credits	-	2	2	0
	NURS2010	Theoretical Perspectives of Acute Health	NUPN2050 OR NURS2401	NURS2050 OR NURS2491	6	6	0
	NURS2050	Nursing Practice for Acute Health	NUPN2050	NURS2010	3	192 Total HRs	
				Semester 5 Total:	15	11	3
SEMESTER 6	NUPN2060	Practical Nursing Consolidation	NURS2010 NURS2050	-	5	320 Total HRs	
				Semester 6 Total:	5	0	0
				Year 2 Total:	34	21	6
				Dip. PN Program Total:	75	51	30

Graduate Future Pathways:

Graduates of the Diploma in Practical Nursing (Dip. PN) program may choose to continue their studies and complete a Bachelor of Science in Nursing or Midwifery.

Graduate Career Opportunities:

Practical Nurses provide direct care in public and private long term care facilities for elderly patients, chronically ill and disabled, hospitals general wards with low dependency patients, physician clinics and Out Patient Departments.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Practical Nurse in a Hospital
- Practical Nurse in Dental Clinics
- Practical Nurse in a Primary Health Care Center
- Practical Nurse in Home Care settings
- Practical Nurse in Physician Offices
- Practical Nurse in Government Agencies

Program Webpage:

Click Here

Diploma in Primary Care Paramedicine (Dip. PCP)

Program Description:

The Diploma in Primary Care Paramedicine (Dip. PCP) is a two-year program that prepares graduates for licensing as a Paramedic in Qatar. The Dip. PCP program is founded on the Canadian National Occupational Competency Profile for Paramedics and EQual Accreditation Canada accreditation standards. An integration of classroom theory, laboratory skills, high-fidelity simulation, and extensive clinical and field preceptorships prepares graduates to practice competently within written protocols, guidelines, and physician orders and to apply sound clinical judgement to assess, treat, and transport patients of all age groups, with a large range of chronic or acute medical or traumatic emergencies. The Dip. PCP prepares graduates for entry-level positions as Ambulance Paramedics within the National Ambulance Service, or equivalent roles in other Emergency Medical Services systems. Graduates are prepared for future education in the Bachelor of Science in Paramedicine.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.
2. Eligible applicants **must** have a valid Qatar driver's license.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as approved uniforms including boots are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.

Diploma in Primary Care Paramedicine (Dip. PCP)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Primary Care Paramedicine (Dip. PCP) program, graduates will be able to:

PEO01. Model professionalism in all aspects of their practice, by demonstrating respect, empathy, cultural sensitivity, and patient advocacy; by maintaining appropriate interactions with patients, coworkers, employers, allied agencies, and the public; by integrating ethical behavior and compliance with all legal requirements; by displaying appropriate deportment and personal hygiene; and by participating in continuing education and professional development
PEO02. Contribute to a safe work environment by maintaining and promoting good physical and mental health; by valuing safety in the performance of their duties; and by recognizing and mitigating the hazards inherent in the practice of paramedicine
PEO03. Apply the knowledge, skills, and abilities gained in the program, combined with sound clinical judgement, to help patients and the community as a whole achieve and maintain optimal health
PEO04. Contribute to the provision of evidence-based care within their organization
PEO05. Actively promote the practice of paramedicine in particular, and health maintenance and injury prevention in general, within the community

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Primary Care Paramedicine (Dip. PCP) program, graduates will be prepared to:

SLO01. Reflect professionalism through personal deportment and public interactions
SLO02. Integrate assessment, diagnostic, and treatment procedures into the holistic management of patients in the out-of-hospital setting
SLO03. Use critical thinking and problem-solving skills that promote logical and independent decision making in the provision of evidence-based paramedic care
SLO04. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements
SLO05. Demonstrate all required skills, knowledge, and abilities, as prescribed by the Canadian National Occupational Competency Profile for Paramedics, for practice at the Primary Care Paramedic level
SLO06. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence
SLO07. Demonstrate ethical behavior, empathy and respect for individuals
SLO08. Meet the entry-to-practice competencies of an Ambulance Paramedic (AP) as defined by the State of Qatar's Ministry of Public Health scope of practice for paramedics

Diploma in Primary Care Paramedicine (Dip. PCP)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	COMM1010	English Communication I	-	-	3	3	0
	HSHG2090	Principles of Pharmacology	-	-	3	3	0
	HSPA1000	Fundamentals of Paramedic Practice	-	-	3	2	3
	HSPA2150	Occupational Fitness	-	-	2	1	3
				Semester 1 Total:	15	12	9
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSHG2210	Communications in Healthcare	COMM1010	-	3	3	0
				Semester 2 Total:	7	6	3
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSPA2100	Cardiology	HSPA1000	-	4	3	3
	HSPA2101	Emergency Medical Care I	HSPA1000	HSPA2111	3	2	3
	HSPA2111	Clinical Practice in Paramedicine I	-	HSPA2101	4	2	4
				Semester 3 Total:	17	13	10
				Year 1 Total:	**39**	**31**	**22**

Diploma in Primary Care Paramedicine (Dip. PCP)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSPA2202	Emergency Medical Care II	HSPA2101	HSPA2212	3	2	3
	HSPA2212	Clinical Practice in Paramedicine II	HSPA2100 HSPA2111	HSPA2202	2	96 Total HRs	
	HSPA2241	Traumatology I	HSPA2101 HSPA2150	-	4	2	4
	HSPA2360	Mental Health for Paramedics	HSPA1000	-	3	2	2
	HSPA3165	Pediatrics, Obstetrics, & Neonatology	HSPA2101	-	3	2	3
				Semester 4 Total:	15	8	12
SEMESTER 5	HSPA2303	Emergency Medical Care III	HSPA2202	HSPA2313	4	3	3
	HSPA2313	Clinical Practice in Paramedicine III	HSPA2212	HSPA2303	2	1	3
	HSPA2375	Special Patient Populations	HSPA2101	-	3	3	0
				Semester 5 Total:	9	7	6
SEMESTER 6	HSPA3231	Paramedic Integration I	HSPA2303 HSPA2313	-	3	0	9
	HSPA3242	Traumatology II	HSPA2241	-	4	3	3
	HSPA3280	Disaster Management	-	-	3	3	0
	HSPA3370	Paramedicine in Primary Healthcare	HSPA2101	-	3	3	0
				Semester 6 Total:	13	9	12
				Year 2 Total:	**37**	**24**	**30**

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSPA3341	Ambulance Practicum	HSPA3165 HSPA3231 HSPA3242 within 6 mo.	-	8	504 Total HRs	
				Semester 7 Total:	8	0	0
				Year 3 Total:	**8**	**0**	**0**
				Dip. PCP Program Total:	**84**	**55**	**52**

Graduate Future Pathways:

Graduates of the Diploma in Primary Care Paramedicine (Dip. PCP) program may choose to continue their studies and complete the Bachelor of Science in Paramedicine (B.Sc. P).

Graduate Career Opportunities:

A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Ambulance Attendant
- Military Paramedic
- Primary Care Paramedic
- Health Information Technician
- Dispatch Officer
- Emergency Room Technician
- Emergency Medical Technician
- Communication Center Operator

Program Webpage:

Click Here

Bachelor Programs

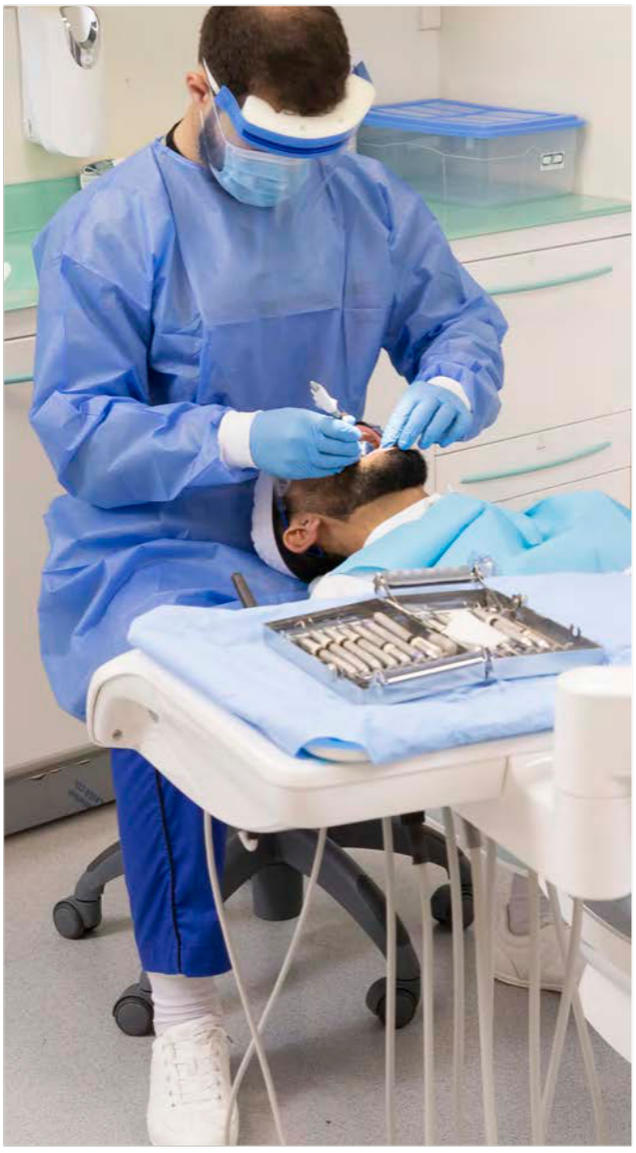
Bachelor of Science in Dental Hygiene (B.Sc. DH)

Program Description:

The Bachelor of Science in Dental Hygiene (B.Sc. DH) program is a four-year degree that prepares graduates for licensing as a Dental Hygienist in Qatar. The B.Sc. DH program is founded on academic requirements for accreditation by the Commission on Dental Accreditation of Canada (CDAC). An integration of theory with extensive application in laboratory, simulation, and practice experiences, including training in the state-of-the-art on campus College of Health Sciences Dental Clinic, prepares graduates to assess oral health, advise patients on oral hygiene, and perform a range of preventative and restorative oral health interventions. The B.Sc. DH prepares graduates with foundational knowledge and skills to practice in public and private clinics and hospitals.

Program Duration:

Four years



Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as scrubs and lab coats are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Students are required to purchase a Dental Hygiene Instrument kit (minimum cost 2500 QAR).
7. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Dental Hygiene (B.Sc. DH) program, graduates will be able to:

PEO01. Demonstrate technical skills and competencies to become effective leaders in the field of Dental Hygiene
PEO02. Pursue lifelong learning and graduate level education
PEO03. Use scientific inquiry to foster critical thinking, reflective reasoning, ethical behavior, and professionalism
PEO04. Participate in domestic and global collaborative efforts to promote oral health
PEO05. Support the needs of the growing diversity of the population
PEO06. Utilize evidence-based approaches and best practice in oral health

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Dental Hygiene (B.Sc. DH) program, graduates will be prepared to:

SLO01. Demonstrate the theoretical knowledge and clinical skill outlined in the dental hygiene national competency profile
SLO02. Practice in a clinical environment to provide services that comply with professional standards and ensure high quality outcomes for the people in the State of Qatar
SLO03. Communicate effectively with patients, dentists and other members of the oral health team within the scope of the Dental Hygiene profession
SLO04. Assess patients' general and oral health status and coordinate care
SLO05. Design a patient - centered oral healthcare process of care: assess, diagnose, plan, implement and evaluate dental hygiene services
SLO06. Use appropriate health education resources and strategies to promote individual and community oral health

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	COMM1010	English Communication I	-	-	3	3	0
	CHEM1040	Applied Science	-	CHEM1041	3	3	0
	CHEM1041	Applied Scienc (Lab)	-	CHEM1040	1	0	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
				Semester 1 Total:	**15**	**12**	**9**
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	HSDH1270	Principles & Issues in Dental Hygiene	BIOL1110 CHEM1040 CHEM1041 BIOL1030 BIOL1031	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 2 Total:	**16**	**15**	**3**
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
				Semester 3 Total:	**6**	**6**	**0**
				Year 1 Total:	**37**	**33**	**12**

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSHG2020	Health & Wellness	-	-	3	3	0
	HSDH2140	Oral Histology & Embryology	BIOL1210	-	2	2	0
	HSDH2120	Head & Neck Anatomy	BIOL1210	-	3	3	0
	HSDH2130	Dental Anatomy	BIOL1210	-	3	2	3
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
				Semester 4 Total:	**14**	**13**	**4**
SEMESTER 5	HSDH2250	Introduction to Dental Hygiene	HSDH2120 HSDH2130 HSDH2140	HSDH2260	4	4	0
	HSDH2260	Dental Hygiene Instrumentation	HSDH2120 HSDH2130 HSDH2140	HSDH2250	3	0	9
	HSDH2240	Periodontology I	HSDH2120 HSDH2130 HSDH2140	-	3	3	0
	HSDH2210	General Dentistry Introduction	HSDH2120 HSDH2130 HSDH2140	-	3	3	0
	HSDH2280	Radiology I	HSDH2120 HSDH2130 HSDH2140	-	2	2	0
				Semester 5 Total:	**15**	**12**	**9**
SEMESTER 6	HSDH2350	Fundamentals of Clinical Dental Hygiene	HSDH1270 HSDH2250 HSDH2260	-	4	2	6
	HSDH2390	Community Oral Health I	HSDH2250	-	2	2	0
				Semester 6 Total:	**6**	**4**	**6**
				Year 2 Total:	**35**	**29**	**19**

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSDH3150	Dental Hygiene Theory I	HSDH2350	HSDH3160	4	4	4
	HSDH3160	Dental Hygiene Practice I	HSDH2350	HSDH3150	3	144 Total HRs	
	HSDH3181	Radiology II	HSDH2280	-	3	2	3
	HSDH3100	Oral Pathology	HSDH2240 BIOL1310	-	3	3	0
				Semester 7 Total:	13	9	7
SEMESTER 8	HSDH3250	Dental Hygiene Theory II	HSDH3150 HSDH3160	HSDH3260	4	4	0
	HSDH3260	Dental Hygiene Practice II	HSDH3150 HSDH3160	HSDH3250	3	144 Total HRs	
	HSDH3241	Periodontology II	HSDH2240	-	3	3	0
	HSDH3200	Pharmacology & Pain Management	HSDH3150	-	3	3	0
				Semester 8 Total:	13	10	0
SEMESTER 9	HSDH3350	Dental Hygiene Theory III	HSDH3200 HSDH3250 HSDH3260	HSDH3360	2	2	0
	HSDH3371	Dental Hygiene Practice Management	HSDH1270	-	3	3	0
	HSDH3360	Dental Hygiene Practice III	HSDH3200 HSDH3250 HSDH3260	HSDH3350	2	84 Total HRs	
				Semester 9 Total:	7	5	0
				Year 3 Total:	33	24	7

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSDH4150	Dental Hygiene Theory IV	HSDH3350 HSDH3360	HSDH4160	2	2	0
	HSDH4160	Dental Hygiene Practice IV	HSDH3350 HSDH3360	HSDH4150	3	144 Total HRs	
	HSDH4190	Community Oral Health II	HSDH2390	-	2	2	0
	HSHG4101	Leadership & Change Management for Health Professionals	Min 60 Credits	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 10 Total:	**13**	**10**	**0**
SEMESTER 11	HSDH4250	Dental Hygiene Theory V	HSDH4150 HSDH4160	HSDH4260	2	2	0
	HSDH4260	Dental Hygiene Practice V	HSDH4150 HSDH4160	HSDH4250	2	72 Total HRs	
	HSDH4290	Community Oral Health III	HSDH4190	-	2	2	0
	HSDH4340	Periodontology III	HSDH3241	-	3	3	0
	Elective in Consultation with Academic Advisor				3	3	0
				Semester 11 Total:	**12**	**10**	**0**
				Year 4 Total:	**25**	**20**	**0**
				B.Sc. DH Program Total:	**130**	**106**	**38**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Dental Hygiene (B.Sc. DH) program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Graduates of the Bachelor of Science in Dental Hygiene (B.Sc. DH) program will have the essential knowledge and technical competencies required to enter Dental Hygiene practice, and a broader knowledge of the healthcare field and its systems. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Clinical Dental Hygienist – Public Healthcare Centre
- Clinical Dental Hygienist – Private Sector
- Supervisor – Clinic or Hospital Setting
- Oral Public Health Worker
- Ministry of Public Health Employee
- Research Opportunities
- Sales Rep, Dental Clinic Equipment
- Marketing Sales, Dental Clinic Equipment
- Academic Teaching Assistant

Program Webpage:

Click Here

Bachelor of Science in Environmental Health (B.Sc. EH)

Program Description:

The Bachelor of Science in Environmental Health (B.Sc. EH) is a four-year degree that prepares graduates as environmental health practitioners who assess, manage, and regulate environmental factors to protect human health by minimizing risks and eliminating dangers in the natural and build environments. The B.Sc. EH program is founded on environmental standards and certification requirements from the Chartered Institute of Environmental Health (CIEH), a membership and awarding body for the environmental health sector. An integration of theory, laboratory, site visits, and work term placements prepare graduates with knowledge and skills in a range of environmental disciplines, including environmental protection, food safety and integrity, health and safety, housing and community, and public health. Graduates operate in multidisciplinary teams, prepared for employment in government authorities and departments, retailers and hotel chains, regulators, enforcement agencies, academia, and industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and practicum partners hosting student placements.
4. Documented proof of completed First Aid certification prior to practicum.
5. Personal Protective Equipment (PPE) such as white lab coats, hard hats and safety boots as required by practicum sites.
6. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
7. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.
8. Students may choose to complete individual Chartered Institute of Environmental Health (CIEH) professional association registry at an additional cost.

Bachelor of Science in Environmental Health (B.Sc. EH)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Environmental Health (B.Sc. EH) program, graduates will be able to:

PEO01. Manage problems in core Environmental Health functional areas – public health, pollution control, health and safety, food safety and integrity, and housing and community
PEO02. Demonstrate an understanding of wider issues of Environmental Health significance, such as Environmental Health impacts from global climate change
PEO03. Use an evidence-based approach, applying risk assessment to inform Environmental Health management programs and community planning
PEO04. Show leadership in developing and promoting Environmental Health in the community
PEO05. Conduct Environmental Health research to help focus resources where they are most needed
PEO06. Promote and practice lifelong learning, and pursue professional development and professional certification

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Environmental Health (B.Sc. EH) program, graduates will be prepared to:

SLO01. Apply the knowledge and skills necessary to conduct food, air, water, soil and sanitation inspections and investigations, with the goal of identifying potential health hazards
SLO02. Apply critical reasoning to assess health, safety, legal, social, environmental and economic consequences relevant to the environmental health field of practice
SLO03. Implement improvements to environmental health operations and systems, while using ethical and professional standards of conduct
SPO04. Conduct, analyze, and interpret research on the interaction between the environment and public health and communicate findings
SLO05. Implement educational and promotional programs to increase awareness of environmental health issues
SLO06. Function effectively as an individual, as a member of a team or a leader in a culturally diverse, multi-disciplinary environment
SLO07. Communicate effectively, orally and in writing, to employers, team members, clients, consumers and others, using structured, well-developed arguments
SLO08. Employ lifelong learning strategies, demonstrating a commitment to continuous improvement of one's body of knowledge and awareness of trends and future directions within the field of environmental health

Bachelor of Science in Environmental Health (B.Sc. EH)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSEH1110	Principles of Environmental Health	-	-	4	4	0
				Semester 1 Total:	**15**	**13**	**6**
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	PHYS1030	Health Sciences Physics	-	PHYS1031	3	3	0
	PHYS1031	Health Sciences Physics (Lab)	-	PHYS1030	1	0	3
				Semester 2 Total:	**15**	**12**	**9**
SEMESTER 3	HSEH1310	Environmental Health Law	HSEH1110	-	3	3	0
	Social Sciences, Humanities, and the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 3 Total:	**6**	**6**	**0**
				Year 1 Total:	**36**	**31**	**15**

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSEH2120	Drinking Water Quality	HSEH1110	-	4	3	3
	HSEH2130	Indoor Air Quality	HSEH1110	-	4	3	3
	HSOH1100	Introduction to Health, Safety, & Environment	-	-	4	4	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
				Semester 4 Total:	**15**	**13**	**7**
SEMESTER 5	HSEH2210	Communicable Diseases	BIOL1030 BIOL1031	-	4	3	3
	HSOH2102	Introduction to Toxicology	CHEM1030 CHEM1031	-	4	3	3
	HSOH1200	Health, Safety, & Environment Management Systems	HSOH1100	-	4	3	3
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 5 Total:	**15**	**12**	**9**
SEMESTER 6	HSOH2050	Epidemiology	MATH2002	-	3	3	0
	HSEH2320	Professionalism & Ethics for Environmental Health	-	-	3	3	0
				Semester 6 Total:	**6**	**6**	**0**
				Year 2 Total:	**36**	**31**	**16**

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSEH3240	Recreational Water Quality	HSEH2120	-	4	3	3
	HSEH3120	Food Safety	HSEH1110	-	4	3	3
	HSEH3230	Health Promotion & Education	HSOH2050	-	3	3	0
	HSEH3141	Solid Waste Management	HSEH1110	-	3	3	0
				Semester 7 Total:	**14**	**12**	**6**
SEMESTER 8	HSEH3210	Ambient Air Quality	HSEH2130	-	4	3	3
	HSEH3220	Communicable Disease, Investigation, & Control	HSEH2210 HSOH2050	-	4	3	3
	HSEH3250	Wastewater Management	HSEH3240	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 8 Total:	**14**	**12**	**6**
SEMESTER 9	HSEH3310	Environmental Health Practicum I	HSEH3120 HSEH3210 HSEH3220	-	4	240 Total HRs	
				Semester 9 Total:	**4**	**0**	**0**
				Year 3 Total:	**32**	**24**	**12**

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSEH4110	Environmental Health Applications	HSEH3141 HSEH3210	-	4	3	3
	HSEH4120	Housing & Health	HSEH2130 HSEH3250	-	4	3	3
	HSEH4130	Land Use & Community Planning	HSEH3141 HSEH3250	-	4	3	3
	Elective: Select 1 of 8						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	BUSG2002	Project Management	-	-	3	2	2
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	HSOH2300	Process Safety Management	HSOH1200	-	3	3	0
	HSOH3300	Health & Safety Auditing	HSOH1200	-	3	3	1
	SCIE1002	Science & Environment	-	-	3	3	0
				Semester 10 Total:	**15**	**12**	**9**
SEMESTER 11	HSEH4310	Environmental Health Practicum II	HSEH3310 HSEH4110	-	4	240 Total HRs	
	HSEH4210	Emergency Management	HSEH4110 HSEH4120 HSEH4130	-	3	3	0
	HSEH4230	Food Integrity	HSEH3120	-	4	3	3
				Semester 11 Total:	**11**	**6**	**3**
				Year 4 Total:	**26**	**18**	**12**
				B.Sc. EH Program Total:	**130**	**104**	**55**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Environmental Health (B.Sc. EH) program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Environmental Health professionals/practitioners are employed in a variety of industries, including government ministries, consulting, health care, education, and oil and gas. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Health Inspection Officer
- EH Educator
- Food Safety Officer
- Consultant
- Public Health Officer
- Housing Inspection Officer
- Hospital EH Worker

Program Webpage:

Click Here

Bachelor of Science in Medical Radiography (B.Sc. MR)

Program Description:

The Bachelor of Science in Medical Radiography (B.Sc. MR) is a four-year degree that prepares graduates for licensing as entry-level Medical Technologist in Qatar. The B.Sc. MR is founded on the Canadian Association of Medical Radiation Technologists (CAMRT) and EQual Accreditation Canada standards. An integration of theory with extensive application in laboratory, simulation, and practice experiences prepares graduates with the knowledge and skill to use of a variety of diagnostic imaging equipment to produce and evaluate clinical images and data. Graduates operate in multidisciplinary teams, prepared for employment in hospitals, community health settings, educational institutions, clinics, home care, and private practice. Graduates who complete the B.Sc. MR are eligible to write the CAMRT Certification Exam.

Program Duration:

Four years

Accreditation:

The Bachelor of Science in Medical Radiography (B.Sc. MR) is accredited by EQual of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two final year Science courses (Biology and Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as scrubs and lab coats are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.
7. Students completing this program may choose to apply to write CAMRT certification exams at an additional cost.

Bachelor of Science in Medical Radiography (B.Sc. MR)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Medical Radiography (B.Sc. MR) program, graduates will be able to:

PEO01. Function effectively and consistently within the scope of practice of a medical radiographer
PEO02. Consistently provide safe and effective patient centered care
PEO03. Engage in interprofessional collaboration and practice professionalism
PEO04. Employ and provide effective leadership
PEO05. Conduct, analyze, and apply evidence-based practice
PEO06. Value and engage in lifelong learning

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Medical Radiography (B.Sc. MR) program, graduates will be prepared to:

SLO01. Demonstrate understanding and depth of knowledge in Medical Radiography and related sciences
SLO02. Apply critical-thinking processes, research skills, leadership qualities, specialized imaging skills, and a commitment to lifelong learning prepared to pursue further graduate studies
SLO03. Function successfully across diverse healthcare settings, able to competently deal with varied and complex patient demographics, and healthcare issues
SLO04. Communicate effectively in both oral and written forms
SLO05. Utilize self-reflection and assessment skills to ensure an ongoing process of learning and adaptation to the changing healthcare environment
SLO06. Demonstrate a professional identity and responsibility with patients, colleagues, employers, and the community, while exercising ethical and professional behaviors and attitudes in healthcare practice
SLO07. Function effectively as an individual, and as a member of a team, in culturally diverse, multi-disciplinary, healthcare environments

Bachelor of Science in Medical Radiography (B.Sc. MR)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSMR1100	Introduction to Medical Radiography Practice	-	-	4	3	2
	PHYS1130	Medical Imaging Physics	-	-	3	3	0
	COMM1010	English Communication I	-	-	3	3	0
				Semester 1 Total:	17	15	5
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSMR1201	Apparatus & Accessories	PHYS1130	-	4	3	2
	HSMR1203	Radiation Protection	PHYS1130	-	3	3	0
	COMM1020	English Communication II	COMM1010	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 2 Total:	17	15	5
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSMR1303	Digital Imaging	HSMR1201	-	4	3	2
				Semester 3 Total:	7	6	2
				Year 1 Total:	41	36	12

Bachelor of Science in Medical Radiography (B.Sc. MR)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSMR2102	Radiographic Technique I	HSMR1303	HSMR2105	6	4	4
	HSMR2104	Image Analysis	-	HSMR2102	3	3	0
	HSMR2105	Radiographic Anatomy I	BIOL1310	HSMR2102	3	3	0
	HSMR2106	Patient Care in Radiography	HSMR1100	-	3	2	3
	HSMR2203	Computed Tomography I	HSMR1303	-	3	2	2
				Semester 4 Total:	**18**	**14**	**9**
SEMESTER 5	HSMR2201	Radiographic Technique II	HSMR2102	HSMR2204	6	4	4
	HSMR2202	Specialized Imaging	HSMR1201 HSMR1303	-	3	3	0
	HSMR2204	Radiographic Anatomy II	HSMR2105	-	3	3	0
	HSMR2304	Pathology for Imaging Professionals	BIOL1310	HSMR2204	3	3	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
				Semester 5 Total:	**18**	**16**	**5**
SEMESTER 6	HSMR2301	Radiographic Clinical Orientation	HSMR2201 HSMR2202 HSMR2204 HSMR2304 HSMR1203	-	1	36 Total HRs	
	HSMR2302	Imaging Quality Control	HSMR2202	-	4	3	1
	HSMR2305	Computed Tomography II	HSMR2203	-	4	3	2
				Semester 6 Total:	**9**	**6**	**3**
				Year 2 Total:	**45**	**36**	**17**

Bachelor of Science in Medical Radiography (B.Sc. MR)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSMR3101	Clinical Radiography I	HSMR2301 HSMR2302 HSMR2305	-	8	490 Total HRs	
				Semester 7 Total:	8	0	0
SEMESTER 8	HSHG4101	Leadership & Change Management for Health Professionals	Min 60 Credits	-	3	3	0
	HSMR3201	Clinical Radiography II	HSMR3101 HSMR2302 HSMR2305	-	7	420 Total HRs	
				Semester 8 Total:	10	3	0
SEMESTER 9	HSMR3300	Emerging Trends in Radiography	HSMR2202	-	3	3	0
	HSMR3306	Clinical Radiography III	HSMR3201	-	3	210 Total HRs	
				Semester 9 Total:	6	3	0
				Year 3 Total:	**24**	**6**	**0**

Bachelor of Science in Medical Radiography (B.Sc. MR)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSMR4301	Clinical Radiography IV	HSMR3101 HSMR3201 HSMR3306	-	7	420 Total HRs	
	Elective I: Select 1 of 4						
	HSMR3302	Interventional Radiography	-	-	3	3	0
	HSMR3303	Introduction to Ultrasound I	-	-	3	2	3
	HSMR3304	Introduction to MRI I	-	-	3	3	0
	HSMR3305	Mammography	-	-	3	3	0
				Semester 10 Total:	**10**	**3**	**0**
SEMESTER 11	HSMR4302	Exploratory Specialized Imaging Practicum	HSMR4301	-	6	360 Total HRs	
	Elective II: Select 1 of 3						
	HSMR4203	Introduction to Ultrasound II	HSMR3303	-	3	2	3
	HSMR4204	Introduction to MRI II	HSMR3304	-	3	3	0
	MATH1010	Algebra & Trigonometry	MA1029 OR AMPI Score of 60%	-	3	3	1
				Semester 11 Total:	**9**	**3**	**0**
				Year 4 Total:	**19**	**6**	**0**
				B.Sc. MR Program Total:	**129**	**84**	**29**

Graduate Future Pathways:

Graduates of the Medical Radiography (B.Sc. MR) program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Graduates of the Medical Radiography (B.Sc. MR) program are eligible to work in hospitals and clinics. A wide range of career opportunities in the field currently exist and they include but are not limited to the following:

- Radiographer/Radiologic Technologist (General x-ray)
- Radiologic Technologist (Interventional Radiology)
- Diagnostic Medical Sonographer
- Radiologic Technologist (Computed Tomography)
- Magnetic Resonance Imaging Technologist
- Radiology Information System (RIS) Specialist
- Radiologic Technologist (Mammography/BMD)
- Nuclear Medicine Technologist
- Educator

Program Webpage:

Click Here

Bachelor of Science in Midwifery (B.Sc. Mw)

Program Description:

The Bachelor of Science in Midwifery (B.Sc. Mw) provides students with a thorough understanding of normal and complex conditions affecting pregnancy, birth, and the postpartum care of women and the newborn. Students learn to be responsible for supervising the birth process including conducting spontaneous, normal vaginal births in hospital settings. In addition, they learn to provide clinical care for women and their families throughout pregnancy and six weeks following the birth. In addition to discipline specific courses, to prepare for this career, students complete general education courses including a combination of humanities (e.g., language) and social sciences (e.g., Qatar Society and History). Emphasis is on applied knowledge and critical thinking.

An opportunity to complete the Bachelor of Science in Midwifery through two pathways addresses the call by global health to increase the midwifery workforce through innovative educational pathways that includes recognition of prior education and experience.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics); OR
2. Registered Midwife Diploma or Licensed Associate Midwife or Licensed Assistant/Practical Midwife.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the Student Immunization Form.
2. Documented proof of current Basic Life Support (BLS) for Health Care Providers (Level 3) at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined with the Qatar Ministry of Public Health and clinical partners hosting student practicums.

Bachelor of Science in Midwifery (B.Sc. Mw)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Midwifery (B.Sc. Mw) program, graduates will be able to:

PEO01. Provide context- and culturally relevant evidence-informed woman- and person-centered midwifery care to women, newborns, and their families during the preconception, antenatal, intranatal, postnatal, and neonatal periods
PEO02. Demonstrate commitment to professional, legal, and ethical midwifery practice
PEO03. Use midwifery theories, frameworks, and models of care to maximize health of women and newborns, and to promote healthy family life, planned pregnancies, and positive parenting
PEO04. Communicate and collaborate with women, families, and the interprofessional team to promote normal pregnancy and birth and to maximize health outcomes when complications develop
PEO05. Demonstrate commitment to self-reflection and life-long learning
PEO06. Contribute to advancing autonomous midwifery practice and achievement of sustainable development goals through practice, leadership, scholarship, and stewardship

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Midwifery (B.Sc. Mw) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions in the care of women, newborns, and their families during the preconception, antenatal, intranatal, postnatal, and neonatal periods
SLO02. Practice midwifery within a professional, ethical, and legal framework and in consideration of diverse cultural contexts
SLO03. Demonstrate safe and competent midwifery care in homes, clinics, and hospital settings to women, newborns, and their families
SLO04. Communicate and collaborate effectively with individuals, families, communities, and members of the inter-professional team to promote normal physiological pregnancy and birth and to maximize health outcomes when complications develop
SLO05. Serve as a global citizen and leverage midwifery role to advance sustainable development goals related to women and maternal and newborn health
SLO06. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Bachelor of Science in Midwifery (B.Sc. Mw)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	NUMW1010	Introduction to the Midwifery Profession	-	-	3	3	0
	NURS1040	Health & Health Systems	-	-	4	3	36 Total HRs
				Semester 1 Total:	**14**	**12**	**3**
SEMESTER 2	NUMW1210	Reproductive Anatomy & Physiology	BIOL1030 BIOL1031	-	4	3	3
	NUMW1220	Midwifery Therapeutics I	BIOL1030 BIOL1031 NUMW1010	-	4	3	3
	NUMW1230	Maternal Nutrition & Infant Feeding	BIOL1030 BIOL1031 OR Entry into Midwifery Post-Diploma Program	-	3	3	0
	RSST1001	Qualitative Designs & Analyses		-	3	3	0
				Semester 2 Total:	**14**	**12**	**6**
SEMESTER 3	NUMW1310	Women & Newborn Health Assessment	NUMW1210 NUMW1220 OR Entry into Midwifery Post-Diploma Program	-	4	3	3
	NUMW1320	Introduction to Midwifery Practice	NUMW1210 NUMW1220 NUMW1230	-	3	120 Total HRs	3
				Semester 3 Total:	**7**	**3**	**6**
				Year 1 Total:	**35**	**27**	**15**

Bachelor of Science in Midwifery (B.Sc. Mw)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	NURS1010	Introduction to Pathophysiology & Pharmacotherapeutics	BIOL1030 BIOL1031 (NUPN1010 OR NUMW1010 OR NURS1101) & (BIOL1110 OR NUMW1210)	-	4	3	3
	NUMW2030	Midwifery Therapeutics II	NUMW1220 OR Entry into Midwifery Post-Diploma Program	-	4	3	3
	NUMW2040	Perspectives of Family Health	NUMW1310 NUMW1320	-	2	2	0
	NUMW2041	Perspectives of Women's Health	NUMW1310 NUMW1320	-	2	2	0
	NUMW2042	Perspectives of Newborn Health	NUMW1310 NUMW1320	-	2	2	0
				Semester 4 Total:	**17**	**15**	**7**
SEMESTER 5	NUMW2210	Perspectives of Complex Maternal Health	NUMW2041	-	3	3	0
	NUMW2211	Perspectives of Complex Newborn Health	NUMW2042	-	3	3	0
	NUMW2220	Midwifery Care for Complex Maternal Health	NUMW2030 NUMW2041	-	4	3	3
	NUMW2221	Midwifery Care for Complex Newborn Health	NUMW2030 NUMW2042	-	4	3	3
	NUMW2240	Midwifery Practice I	NUMW2040 NUMW2041 NUMW2042	-	4	208 Total HRs	
				Semester 5 Total:	**18**	**12**	**6**
SEMESTER 6	NUMW2340	Midwifery Practice II	NUMW2240	-	4	224 Total HRs	
	HSHG2101	Health Technology & Informatics	-	-	3	3	0
				Semester 6 Total:	**7**	**3**	**0**
				Year 2 Total:	**42**	**30**	**13**

Bachelor of Science in Midwifery (B.Sc. Mw)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	NUMW3010	Organization of Midwifery Practice	NUMW2340	-	3	3	0
	NUMW3020	Adaptive Leadership & Clinical Management	NUMW2340 OR NUMW3110	-	3	3	0
	NUMW3040	Midwifery Practice III	NUMW2340	-	4	208 Total HRs	
	Elective: Select 1 of 12						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society			3	3	0
	GARC2001	Human Development in Qatar			3	3	0
	GARC2002	Globalization & Environment			3	3	0
	HSHG2080	Ethics in Healthcare			3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 7 Total:	13	9	0
SEMESTER 8	NUMW3210	Critical Analyses of Global Health Trends for Midwives	NUMW3010 & NUMW3020 OR NUMW3110	-	3	3	0
	NUMW3240	Midwifery Practice IV	NUMW3040		5	312 Total HRs	
	Elective: Select 1 of 12						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0

Bachelor of Science in Midwifery (B.Sc. Mw)

Year 3 *Contd...*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/ WEEK	
			Pre-Req	Co-Req		LEC	LAB
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 8 Total:	11	6	0
SEMESTER 9	NUMW3340	Exploratory Practice for Midwives	NUMW3240	-	5	280 Total HRs	
				Semester 9 Total:	5	0	0
				Year 3 Total:	**29**	**15**	**0**

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	NUMW4040	Midwifery Practice V	NUMW3340		9	520 Total HRs	
				Semester 10 Total:	9	0	0
SEMESTER 11	NUMW4240	Consolidation of Midwifery Practice	NUMW4040		9	520 Total HRs	
				Semester 11 Total:	9	0	0
				Year 4 Total:	**18**	**0**	**0**
				B.Sc. Mw Program Total:	**124**	**72**	**28**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Midwifery (B.Sc. Mw) degree program may choose to continue studies in their field or conduct research.

Graduate Career Opportunities:

The Bachelor of Science in Midwifery (B.Sc. Mw) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities as a Midwife currently exist.

- Registered Midwife in a Hospital Setting
- Registered Midwife in a Community Clinical Setting

Program Webpage:

Click Here

Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw)

Program Description:

The Post Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw) provides students with a thorough understanding of normal and complex conditions affecting pregnancy, birth, and the postpartum care of women and their newborns. Students will acquire the applied knowledge, skill and critical thinking required to provide the diverse care delivered by midwives who provide clinical care throughout pregnancy and six weeks following delivery. Graduates will be responsible for supervising the birth process including conducting spontaneous, normal vaginal births in hospital settings.

NOTE: Admission to the Post Diploma B.Sc Mw program is restricted to those with prior learning and experience as a licensed midwife.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics).

PLUS

Registered Midwife Diploma or Licensed Associate Midwife or Licensed Assistant/Practical Midwife.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the Student Immunization Form.
2. Documented proof of current Basic Life Support (BLS) for Health Care Providers (Level 3) at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined with the Qatar Ministry of Public Health and clinical partners hosting student practicums.

Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw) program, graduates will be able to:

PEO01. Provide context- and culturally relevant evidence-informed woman- and person-centered midwifery care to women, newborns, and their families during the preconception, antenatal, intranatal, postnatal, and neonatal periods
PEO02. Demonstrate commitment to professional, legal, and ethical midwifery practice
PEO03. Use midwifery theories, frameworks, and models of care to maximize health of women and newborns, and to promote healthy family life, planned pregnancies, and positive parenting
PEO04. Communicate and collaborate with women, families, and the interprofessional team to promote normal pregnancy and birth and to maximize health outcomes when complications develop
PEO05. Demonstrate commitment to self-reflection and life-long learning
PEO06. Contribute to advancing autonomous midwifery practice and achievement of sustainable development goals through practice, leadership, scholarship, and stewardship

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions in the care of women, newborns, and their families during the preconception, antenatal, intranatal, postnatal, and neonatal periods
SLO02. Practice midwifery within a professional, ethical, and legal framework and in consideration of diverse cultural contexts
SLO03. Demonstrate safe and competent midwifery care in homes, clinics, and hospital settings to women, newborns, and their families
SLO04. Communicate and collaborate effectively with individuals, families, communities, and members of the inter-professional team to promote normal physiological pregnancy and birth and to maximize health outcomes when complications develop
SLO05. Build on prior learning and experience to enhance capacity and contribution to midwifery practice, organizational and systems leadership, quality assurance, health policy, and research
SLO06. Serve as a global citizen and leverage midwifery role to advance sustainable development goals related to women and maternal and newborn health
SLO07. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	NUMW1230	Maternal Nutrition & Infant Feeding	BIOL1030 BIOL1031 OR Entry into Midwifery Post-Diploma Program	-	3	3	0
	NUMW2020	PD Women & Newborn Health Assessment	-	-	4	3	3
	NUMW3110	Context of Midwifery Practice	-	-	3	3	0
	NUMW3120	PD Reproductive Anatomy & Physiology	-	-	2	2	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
	Elective: Select 1 of 2						
	NUMW3130	PD Communication for Midwives	-	-	2	2	0
	NUMW3150	PD Introduction to Midwifery Practice	-	-	2	120 Total HRs	
				Semester 1 Total:	17	14	3
SEMESTER 2	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	NUMW2030	Midwifery Therapeutics II	NUMW1220 OR Entry into Midwifery Post-Diploma Program	-	4	3	3
	NUMW3220	PD Complex Maternal Care	NUMW3110 NUMW2020 NUMW3150	-	4	3	3
	NUMW3230	PD Complex Neonatal Care	NUMW3110 NUMW2020 NUMW3150	-	4	3	3
	NUMW3250	Midwifery Practice I	NUMW1230 NUMW2020 (NUMW3130 OR NUMW3150)	-	2	120 Total HRs	
				Semester 2 Total:	17	12	10

Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw)

Year 1 *Contd...*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	NUMW3020	Adaptive Leadership & Clinical Management	NUMW2340 OR NUMW3110	-	3	3	0
	NUMW3210	Critical Analyses of Global Health Trends for Midwives	NUMW3010 & NUMW3020 OR NUMW3110	-	3	3	0
	NUMW3350	PD Midwifery Practice II	NUMW2030 NUMW3220 NUMW3230 NUMW3250	-	3	168 Total HRs	
				Semester 3 Total:	9	6	0
				Year 1 Total:	**43**	**26**	**13**

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	NUMW4150	PD Midwifery Practice III	NUMW3350	-	10	560 Total HRs	
				Semester 4 Total:	10	0	0
SEMESTER 5	NUMW4250	PD Consolidated Midwifery Practice	NUMW4150	-	10	560 Total HRs	
				Semester 5 Total:	10	0	0
SEMESTER 6	NUMW4350	PD Exploratory Practice for Midwives	NUMW4250	-	5	280 Total HRs	
				Semester 6 Total:	5	0	0
				Year 2 Total:	**25**	**0**	**0**
				PDip. B.Sc. Mw Program Total:	**68**	**26**	**13**

Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw)

Graduate Future Pathways:

Graduates of the Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw) degree program may choose to continue studies in their field or conduct research.

Graduate Career Opportunities:

The Post-Diploma Bachelor of Science in Midwifery (PDip. B.Sc. Mw) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities as a Midwife currently exist.

- Registered Midwife in a Hospital Setting
- Registered Midwife in a Community Clinical Setting

Program Webpage:

Click Here

Bachelor of Science in Nursing (B.Sc. N)

Program Description:

The Bachelor of Science in Nursing (B.Sc. N) prepares students as entry-level registered nursing practitioners, leaders, and scholars. A contemporary curriculum equips students with knowledge, skills, and attributes to provide context and culturally relevant evidence-informed person-centered nursing care across the continuum of care and life course in the face of rapidly changing healthcare systems. Nursing students learn to shape the future of nursing and healthcare through options to engage in research or quality assurance projects or entrepreneurial and technological innovation initiatives. Students may also choose to gain additional competences in a focused area of clinical practice. In this program, student learning is supported in a sophisticated Nursing and Midwifery Experiential Center, equipped with state-or-the-art equipment, high fidelity simulators, and task trainers. Students also benefit from a modern virtual simulation lab and a Standardized Patient Program. Students gain proficiency in practice through exposure to clinical practice in their first year of the program, followed by integrated clinical practicums during each semester throughout the program. Graduates from the program meet academic requirements for application to license as a RN and are prepared to practice in multiple settings including public and private primary, secondary, and tertiary hospitals, ambulatory health care centers, community clinics, physician offices, schools, home care, government and public policy agencies, and research institutes. Graduates are prepared for future education for Master of Science in Nursing.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of one final year Chemistry and one final year Science (Biology or Physics) course each with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Nursing (B.Sc. N)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Nursing (B.Sc. N) program, graduates will be able to:

PEO01 Demonstrate commitment to professional, legal, and ethical nursing practice in compliance with Qatar's Registered Nurses Regulations of Practice
PEO02. Provide context- and culturally relevant evidence-informed person-centered nursing care based on relevant theories, frameworks, and models of care that maximize health of persons and families
PEO03. Collaborate with intraprofessional and interprofessional teams to promote and protect health and maximize health outcomes for those experiencing injury, illness, or disease
PEO04. Demonstrate commitment to self-reflection and life-long learning
PEO05. Contribute to advancing autonomous nursing practice and achievement of sustainable development goals through practice, leadership, scholarship, and stewardship

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Nursing (B.Sc. N) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions in the care of persons and their families
SLO02. Practice nursing within a professional, ethical and legal framework and in consideration of diverse cultural contexts
SLO03. Communicate and collaborate effectively with individuals, families, communities and members of the intraprofessional and interprofessional team to provide high quality person-centered care
SLO04. Practice safely and competently in diverse healthcare settings, incorporating a range of nursing therapeutics across the health continuum and for persons with varying acuity and care complexity
SLO05. Serve as a global citizen and leverage the nursing role to advance sustainable development goals and person and population health
SLO06. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Bachelor of Science in Nursing (B.Sc. N)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	NURS1101	Introduction to the Nursing Profession	-	-	3	3	0
	NURS1040	Health & Health Systems	-	-	4	3	36 Total HRs
				Semester 1 Total:	**18**	**15**	**6**
SEMESTER 2	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	NURS1010	Introduction to Pathophysiology & Pharmacotherapeutics	(BIOL1110 OR NUMW1210); BIOL1030; BIOL1031; (NUPN1010 OR NUMW1010 OR NURS1101)	-	4	3	3
	NURS1020	Nursing Therapeutics I	BIOL1110; BIOL1030; BIOL1031; (NUPN1010 or NURS1101)	-	4	3	3
	NURS1030	Introduction to Health Assessment	BIOL1110; BIOL1030; BIOL1031; (NUPN1010 or NURS1101)	-	4	3	3
				Semester 2 Total:	**19**	**15**	**12**
SEMESTER 3	NURS1021	Nursing Therapeutics II	NURS1020	-	4	3	3
	NURS1050	Person & Family Centered Practice	COMPLETION OF 34 CREDITS	-	3	100 Total HRs	3
				Semester 3 Total:	**7**	**3**	**6**
				Year 1 Total:	**44**	**33**	**24**

Bachelor of Science in Nursing (B.Sc. N)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	NURS2020	Alterations & Therapeutics I	NURS1021; NURS1050	-	4	3	3
	NURS2101	Perspectives of Family Health	(NURS1021 AND NURS1050) OR Entry into PDip. B.Sc N Program	-	3	3	0
	NURS2102	Perspectives of Maternal & Newborn Health	NURS1021; NURS1050	NURS2401	2	2	0
	NURS2103	Perspectives of Pediatric & Adolescent Health	NURS1021; NURS1050	NURS2401	2	2	0
	NURS2401	Nursing Practice for Families	NURS1021; NURS1050	NURS2102; NURS2103	3	192 Total HRs	
				Semester 4 Total:	**14**	**10**	**3**
SEMESTER 5	NURS2021	Alterations & Therapeutics II	NURS2020	-	4	3	3
	HSHG2101	Health Technology & Informatics	-	-	3	3	0
	NURS2010	Theoretical Perspectives of Acute Health	(NUPN 2050 or NURS2401)	-	6	6	0
	NURS2491	Nursing Practice for Acute Health I	NURS2401	NURS2010	3	192 Total HRs	
				Semester 5 Total:	**16**	**12**	**3**
SEMESTER 6	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	NURS2492	Nursing Practice for Acute Health II	NURS2491	-	2	112 Total HRs	0
				Semester 6 Total:	**5**	**3**	**1**
				Year 2 Total:	**35**	**25**	**7**

Bachelor of Science in Nursing (B.Sc. N)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	NURS3101	Perspectives of Complex Health	(NURS2010 AND NURS2492) OR Entry into PPN B.Sc. N Program	NURS3401 OR NURS3405	6	6	0
	NURS3102	Perspectives of Chronic Health & Life Limiting Conditions	(NURS2010 AND NURS2492) OR Entry into PPN B.Sc. N Program	NURS3401 OR NURS3405	3	3	0
	NURS3401	Integrated Nursing Practice I	NURS2010; NURS2492	NURS3101; NURS3102	3	192 Total HRs	
	NURS4104	Adaptive Leadership & Clinical Management	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PD INIC	-	3	3	0
				Semester 7 Total:	**15**	**12**	**0**
SEMESTER 8	NURS3402	Integrated Nursing Practice II	NURS3401	-	5	288 Total HRs	
	NURS4101	Best Practices & Quality Improvement	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0

Bachelor of Science in Nursing (B.Sc. N)

Year 3 *Contd...*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 8	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 8 Total:	11	6	0
SEMESTER 9	NURS3403	Integrated Nursing Practice III	NURS3401	-	2	120 Total HRs	
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 9 Total:	5	3	0
				Year 3 Total:	**31**	**21**	**0**

Bachelor of Science in Nursing (B.Sc. N)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	NURS4102	Organization of the Nursing Profession	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	NURS4103	Critical Analyses of Global Health Trends for Nurses	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	NURS4401	Exploratory Practice for Nurses	NURS3403		5	288 Total HRs	
				Semester 10 Total:	**11**	**6**	**0**
SEMESTER 11	NURS4402	Consolidation of Nursing Practice	NURS3403		8	480 Total HRs	
				Semester 11 Total:	**8**	**0**	**0**
				Year 4 Total:	**19**	**6**	**0**
				B.Sc. Nursing Program Total:	**129**	**85**	**31**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Nursing (B.Sc. N.) program have the opportunity to continue their education by pursuing a Master's degree in Nursing or specializing in various areas within the field of nursing.

Graduate Career Opportunities:

Nurses practice in a wide variety of settings, such as hospitals, community health settings, educational institutions, long term care facilities, mental health settings, occupational health, and private practice, playing vital roles in promoting health and providing patient care across the continuum.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Nurse in a Hospital
- Nurse in School Clinics
- Nurse in a Primary Health Care Center
- Nurse in Home Care Settings
- Nurse in Physician Offices
- Nurse in Specialized Clinics
- Nurse in Government Agencies

Program Webpage:

Click Here

Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N)

Program Description:

The two-year Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N) is designed for Registered Nurses who have graduated with an associate diploma in nursing and wish to advance their academic credentials to a Bachelors in Science in Nursing. Graduates gain advanced clinical competence and research capacity, as well as an understanding of population health, organizational and systems leadership, health policy, finance and regulatory environments, and interprofessional collaborations. Students learn to shape the future of nursing and healthcare through options to engage in research or quality assurance projects or entrepreneurial or technological innovation initiatives. Students may also choose to refine their competence in a focused area of clinical practice that aligns with their experience and interests. Student learning is supported in a sophisticated Nursing and Midwifery Experiential Center, equipped with state-or-the-art equipment, high fidelity simulators, and task trainers. Students also benefit from a modern virtual simulation lab and a Standardized Patient Program. In addition, graduates are prepared for the possibility of future education in a Master of Science in Nursing.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. Two-year RN Associate Degree/Diploma or equivalent approved by the Ministry of Education and Higher Education from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale; AND
   A. Proof of current licensure in Qatar from the Department of Healthcare Professions as a General Registered Nurse in good standing. OR
   B. Two-year RN Associate Degree/Diploma or equivalent approved by the Ministry of Education and Higher Education from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale; AND
2. Proof of current licensure in Qatar from the Department of Healthcare Professions as an Assistant Nurse in good standing. Note that applicants not licensed and employed as a RN may be required to complete up to five (5) additional courses in health assessment and nursing therapeutics to update knowledge and practice skills; OR
3. Two-year RN Associate Degree/Diploma or equivalent, obtained within past five (5) years, and approved by the Ministry of Education and Higher Education from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale; AND
4. Completion of up to five (5) additional courses in health assessment and nursing therapeutics to update knowledge and practice skills.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N) program, graduates will be able to:

PEO01. Demonstrate commitment to professional, legal, and ethical nursing practice in compliance with Qatar's Registered Nurses Regulations of Practice
PEO02. Provide context- and culturally relevant evidence-informed person-centered nursing care based on relevant theories, frameworks, and models of care that maximize health of persons and families
PEO03. Collaborate with intraprofessional and interprofessional teams to promote and protect health and maximize health outcomes for those experiencing injury, illness, or disease
PEO04. Demonstrate commitment to self-reflection and life-long learning
PEO05. Contribute to advancing autonomous nursing practice and achievement of sustainable development goals through practice, leadership, scholarship, and stewardship

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions in the care of persons and their families
SLO02. Practice nursing within a professional, ethical and legal framework and in consideration of diverse cultural contexts
SLO03. Communicate and collaborate effectively with individuals, families, communities and members of the intraprofessionals and interprofessional team to provide high quality person-centered care
SLO04. Practice safely and competently in diverse healthcare settings, incorporating a range of nursing therapeutics across the health continuum and for persons with varying acuity and care complexity
SLO05. Build on prior learning and experience to enhance professional capacity to contribute to nursing practice, organizational and systems leadership, quality assurance, health policy, and research
SLO06. Serve as a global citizen and leverage nursing role to advance sustainable development goals and person and population health
SLO07. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	NURS3104	Knowledge & Innovation in Nursing	-	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
	HSHG2101	Health Technology & Informatics	-	-	3	3	0
	NURS3391	Advanced Health Assessment & Therapeutics I	-	-	4	3	3
	NURS4102	Organization of the Nursing Profession	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
				Semester 1 Total:	**16**	**15**	**3**
SEMESTER 2	NURS2104	Perspectives of Family & Community Health	NURS3104	-	4	3	36 Total HRs
	NURS3392	Advanced Health Assessment & Therapeutics II	NURS3391	-	4	3	3
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 2 Total:	**14**	**12**	**3**
SEMESTER 3	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	NURS3404	PD Exploratory Nursing Practice I	NURS2104; NURS3392	-	2	112 Total HRs	
				Semester 3 Total:	**5**	**3**	**1**
				Year 1 Total:	**35**	**30**	**7**

Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	NURS4403	PD Exploratory Nursing Practice II	-	-	2	112 Total HRs	36 Total HRs
	NURS4101	Best Practices & Quality Improvement	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	NURS4105	Clinical Management & Business Basics for Nurses	Min 50 Nursing Credits	-	3	3	0
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 4 Total:	11	9	0
SEMESTER 5	NURS4103	Critical Analyses of Global Health Trends for Nurses	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	NURS4404	PD Exploratory Nursing Practice III	NURS3404	-	4	224 Total HRs	
	NURS4106	Adaptive Leadership for Nurses	NURS3104; NURS4101; NURS4102	-	3	3	0
				Semester 5 Total:	10	6	0

Post-Diploma Bachelor of Science in Nursing (PDip. B.Sc. N)

Year 2 *Contd...*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 6	NURS4405	PD Exploratory Nursing Practice IV	-	-	4	224 Total HRs	
				Semester 6 Total:	4	0	0
				Year 2 Total:	**25**	**15**	**0**
				Post-Diploma B.Sc. Nursing Program Total:	**60**	**45**	**7**

Graduate Future Pathways:

Graduates of the Post Diploma Bachelor of Science in Nursing (PDip. B.Sc. N) program have the option to further their education by pursuing a Master's degree in Nursing or specializing in various areas within the field of nursing.

Graduate Career Opportunities:

Nurses practice in a wide variety of settings, such as hospitals, community health settings, educational institutions, long term care facilities, mental health settings, occupational health, and private practice, playing vital roles in promoting health and providing patient care across the continuum.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Nurse in a Hospital
- Nurse in School Clinics
- Nurse in a Primary Health Care Center
- Nurse in Home Care Settings
- Nurse in Physician Offices
- Nurse in Specialized Clinics
- Nurse in Government Agencies

Program Webpage:

Click Here

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Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Program Description:

The two-year Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N) program prepares diploma level LPN or Assistant Nurses to upgrade their education credential from diploma to bachelors, and to upgrade their practitioner license from LPN to RN. Students build on prior education to achieve competences expected of RNs, with a focus on understanding the scope of practice for RNs, increasing their breadth and depth of knowledge, especially in the care of patients with complex health needs, and enhancing their understanding about clinical decision making, critical thinking, research utilization, leadership, care delivery systems, and resource management. Students learn to shape the future of nursing and healthcare through options to engage in research or quality assurance projects, or entrepreneurial and technological innovation initiatives. Students may also choose to refine their competence in a focused area of clinical practice that aligns with their experience and interests. Student learning is supported in a sophisticated Nursing and Midwifery Experiential Center, equipped with state-or-the-art equipment, high fidelity simulators, and task trainers. Students also benefit from a modern virtual simulation lab and a Standardized Patient Program. Graduates from the program meet academic requirements for application to license as a RN and are prepared to practice in multiple settings including public and private primary, secondary, and tertiary hospitals, ambulatory health care centers, community clinics, physician offices, schools, home care, government and public policy agencies, and research institutes. In addition, graduates are prepared for the possibility of future education in a Master of Science in Nursing.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. Two-year Practical Nursing Diploma or equivalent approved by the Ministry of Education and Higher Education from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale; OR
2. Two-year Diploma in Practical Nursing from UDST with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved
2. internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
3. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
4. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Documented proof of current licensure in Qatar as an Assistant Nurse or Practical Nurse and in good standing. Note that applicants not licensed and employed as an LPN or Assistant Nurse may be required to complete up to five (5) UDST (bridging) courses to update knowledge and practice skills related to health assessment and nursing therapeutics.

Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Post-Practical Nurse Bachelor of Science in Nursing (PPN B.Sc. N) program, graduates will be able to:

PEO01. Demonstrate commitment to professional, legal, and ethical nursing practice in compliance with Qatar's Registered Nurses Regulations of Practice
PEO02. Provide context- and culturally relevant evidence-informed person-centered nursing care based on relevant theories, frameworks, and models of care that maximize health of persons and families
PEO03. Collaborate with intraprofessional and interprofessional teams to promote and protect health and maximize health outcomes for those experiencing injury, illness, or disease
PEO04. Demonstrate commitment to self-reflection and life-long learning
PEO05. Contribute to advancing autonomous nursing practice and achievement of sustainable development goals through practice, leadership, scholarship, and stewardship

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Post-Practical Nurse Bachelor of Science in Nursing (PPN B.Sc. N) program, graduates will be prepared to:

SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions in the care of persons and their families
SLO02. Practice nursing within a professional, ethical and legal framework and in consideration of diverse cultural contexts
SLO03. Communicate and collaborate effectively with individuals, families, communities and members of the intraprofessional and interprofessional team to provide high quality person- and family-centered care to persons and their families
SLO04. Practice safely and competently in diverse healthcare settings, incorporating a range of nursing therapeutics across the health continuum and for persons with varying acuity and care complexity
SLO05. Build on prior learning and experience to enhance professional capacity to coordinate and care for patients with complex states of health
SLO06. Serve as a global citizen and leverage nursing role to advance sustainable development goals and person and population health
SLO07. Model a spirit of curiosity and inquiry and pursuit of life-long learning

Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	NURS3101	Perspectives of Complex Health	(NURS2010 AND NURS2492) OR Entry into PPN B.Sc. N Program	NURS3401 OR NURS3405	6	6	0
	NURS3102	Perspectives of Chronic Health & Life Limiting Conditions	(NURS2010 AND NURS2492) OR Entry into PPN B.Sc. N Program	NURS3401 OR NURS3405	3	3	0
	NURS3103	Transition to Professional Nursing	-	-	3	3	0
	NURS3405	Post LPN Integrated Practice I	-	NURS3101; NURS3102	3	192 Total HRs	
				Semester 1 Total:	**15**	**12**	**0**
SEMESTER 2	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
	HSHG2101	Health Technology & Informatics	-	-	3	3	0
	NURS3406	Post LPN Integrated Practice II	NURS3405	-	3	192 Total HRs	
	NURS4102	Organization of the Nursing Profession	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
				Semester 2 Total:	**12**	**9**	**0**
SEMESTER 3	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	NURS3407	Post LPN Integrated Practice III	NURS3406	-	2	112 Total HRs	
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0

Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Year 1 *Contd...*

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 3	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 3 Total:	8	6	1
				Year 1 Total:	**35**	**27**	**1**

Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	NURS4104	Adaptive Leadership & Clinical Management	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. INIC	-	3	3	0
	NURS4101	Best Practices & Quality Improvement	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC		3	3	0
	NURS4407	Post LPN Integrated Practice IV	NURS3406		3	192 Total HRs	
				Semester 4 Total:	9	6	0
SEMESTER 5	NURS4103	Critical Analyses of Global Health Trends for Nurses	Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC	-	3	3	0
	NURS4408	Post LPN Consolidation of Practice	NURS4407		5	288 Total HRs	
	Elective: Select 1 of 13						
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	NUMW1230	Maternal Nutrition & Infant Feeding	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
				Semester 5 Total:	11	6	0

Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N)

Year 2 *Contd...*

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
		Pre-Req	Co-Req		LEC	LAB
NURS4409	Post LPN Exploratory Practice	NURS4408	-	5	280 Total HRs	
			Semester 6 Total:	5	0	0
			Year 2 Total:	**25**	**12**	**0**
			Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N) Program Total:	**60**	**39**	**1**

Graduate Future Pathways:

Graduates of the Post-Practical Nursing Bachelor of Science in Nursing (PPN B.Sc. N.) program have the option to further their education by pursuing a Master's degree in Nursing or specializing in various areas within the field of nursing.

Graduate Career Opportunities:

Nurses practice in a wide variety of settings, such as hospitals, community health settings, educational institutions, long term care facilities, mental health settings, occupational health, and private practice, playing vital roles in promoting health and providing patient care across the continuum.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Nurse in a Hospital
- Nurse in School Clinics
- Nurse in a Primary Health Care Center
- Nurse in Home Care Settings
- Nurse in Physician Offices
- Nurse in Specialized Clinics
- Nurse in Government Agencies

Program Webpage:

Click Here

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Program Description:

The Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) is a four-year degree that prepares graduates to anticipate, identify, control, and evaluate workplace hazards and for professional management roles. The program is founded on current best practices in OHSE and embeds competences and certifications from the International Network of Safety & Health Professional Organizations (INSHPO), the National Examination Board in Occupational Safety and Health (NEBOSH), and the Institution of Occupational Safety and Health (IOSH). An integration of theory with application in laboratory and diverse work placements prepares graduates to join the workforce as autonomous and competent practitioners who can promote professional and ethical behavior, identify health, safety and environmental hazards in the workplace, assess the risk of those hazards, and implement control measures including health, safety and environmental laws, standards, and international best practices to eliminate or minimize those risks. Graduates are employed in a variety of industries, including construction, manufacturing, health care, education, and oil and gas.

Program Duration:

Four years

Accreditation:

Various courses embedded in the Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) are accredited through the National Examination Board in Occupational Safety and Health (NEBOSH), a leading specialized accreditation association for health, safety, environment and wellbeing management. For more information on UDST's NEBOSH accreditation, please visit www.nebosh.org.uk

nebosh
Accredited Centre
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The Occupational Health, Safety and Environment diploma program is accredited through the Institution of Occupational Safety and Health (IOSH), the world's largest membership organization for health and safety professionals. IOSH is committed to ensuring that global work practices are safe, healthy and sustainable. For more information on UDST's IOSH accreditation. For more information on UDST's IOSH accreditation, please visit https://iosh.com

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Accredited Programme

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum score of 60%; OR
2. Two-year Occupational Health, Safety and Environment Diploma from UDST, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed First Aid certification prior to the OHSE work term/practicum.
2. Personal Protective Equipment (PPE) such as hard hats and steel-toed boots are required for most work term sites.
3. It is the student's responsibility to arrange transportation to and from work term sites.
4. Additional program costs may include textbooks and a mobile phone to access specialized applications.
5. Students may choose to complete individual National Examination Board in Occupational Safety and Health (NEBOSH) certification exams at an additional cost.

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) program, graduates will be able to:

PEO01. Demonstrate technical competency and leadership to become occupational health and safety professionals leading to a successful career
PEO02. Pursue lifelong learning in generating innovative safety solutions using research and complex problem-solving skills
PEO03. Have successful careers in industry, government, academia and military as innovative occupational health and safety professionals
PEO04. Be successful in solving safety problems associated with various industries
PEO05. Continue to learn and advance their careers through activities such as participation in professional organizations
PEO06. Attain professional certification and higher education
PEO07. Be active members ready to serve the society locally and internationally

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) program, graduates will be prepared to:

SLO01. Assist with the planning of an organization's OHS compliance and performance strategy
SLO02. Conduct qualitative and quantitative risk assessments to analyze causes, consequences and controls related to work tasks
SLO03. Coordinate workplace inspection, investigation, and audit activities to systematically monitor OHS compliance and performance
SLO04. Produce oral and written reports for management about OHS performance with recommendations for corrective action
SLO05. Communicate, engage with and influence others to mitigate OHS risks and optimize OHS performance
SLO06. Make OHS decisions and judgments based on knowledge of national laws, industry standards, guidelines, and codes of practice
SLO07. Plan for and appropriately respond to potential OHS emergencies
SLO08. Function effectively as an individual, and as a member or leader of a diverse team in multi-disciplinary and multicultural setting

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSOH1100	Introduction to Health, Safety, & Environment	-	-	4	4	0
				Semester 1 Total:	15	13	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	PHYS1030	Health Sciences Physics	-	PHYS1031	3	3	0
	PHYS1031	Health Sciences Physics (Lab)	-	PHYS1030	1	0	3
	HSOH1200	Health, Safety, & Environment Management Systems	HSOH1100	-	4	3	3
				Semester 2 Total:	12	9	9
SEMESTER 3	HSOH1300	Health, Safety, & Environment Law	HSOH1200	-	3	3	0
	HSOH2040	Professionalism & Ethics	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
				Semester 3 Total:	9	9	0
				Year 1 Total:	36	31	15

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	BIOL2010	Microbiology	-	BIOL2011	3	3	0
	BIOL2011	Microbiology (Lab)	-	BIOL2010	1	0	3
	HSOH2110	Occupational Hazards & Controls	HSOH1200	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
				Semester 4 Total:	**13**	**11**	**6**
SEMESTER 5	BUSG2002	Project Management	-	-	3	2	2
	HSOH2102	Introduction to Toxicology	CHEM1030 CHEM1031	-	4	3	3
	HSOH2220	Inspections & Investigations	HSOH1200	-	4	3	3
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
				Semester 5 Total:	**14**	**11**	**9**
SEMESTER 6	HSOH2050	Epidemiology	MATH2002	-	3	3	0
	HSOH2300	Process Safety Management	HSOH1200	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 6 Total:	**9**	**9**	**0**
				Year 2 Total:	**36**	**31**	**15**

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSOH3110	Fire Safety & Risk Management	HSOH1200	-	4	4	0
	HSOH3220	Environmental Management	HSOH1200	-	4	3	3
	HSOH3150	Occupational Hygiene I	HSOH1200	-	4	3	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	3
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 7 Total:	**15**	**13**	**6**
SEMESTER 8	HSOH3210	Ergonomics	HSOH2110	-	4	3	3
	HSOH3120	Management of Health & Wellness at Work	HSOH2110	-	4	4	0
	HSOH3251	Occupational Hygiene II	HSOH2110	-	4	3	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 5						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 8 Total:	**15**	**13**	**6**
SEMESTER 9	HSOH3300	Health & Safety Auditing	HSOH1200	-	3	3	1
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
				Semester 9 Total:	**6**	**5**	**4**
				Year 3 Total:	**36**	**31**	**16**

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSOH4100	International Oil & Gas Certificate	HSOH1200 HSOH2300	-	4	3	3
	HSOH4130	Occupational Health & Safety in the Construction Industry	HSOH2110	-	6	6	0
	Elective: Select 1 of 6						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	2	2
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	HSEH1110	Principles of Environmental Health	-	-	4	4	0
	SCIE1002	Science & Environment	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
				Semester 10 Total:	13	12	3
SEMESTER 11	HSOH4200	Occupational Health, Safety, & Environment Degree Practicum	-	-	8	480 Total HRs	
				Semester 11 Total:	8	0	0
				Year 4 Total:	21	12	3
				B.Sc. OHSE Program Total:	129	105	49

Graduate Future Pathways:

Graduates of the Occupational Health, Safety and Environment (B.Sc. OHSE) program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

The Occupational Health, Safety and Environment (B.Sc. OHSE) program prepares graduates for an exciting and rewarding career in the field of Occupational Health, Safety and Environment in any industry. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- HSE Safety Coordinator
- OHSE Officer
- Military HSE Officer
- Safety Coordinator Officer (Systems & Audit)
- HSE Officer/ Inspector
- OHSE Educator
- Occupational Health and Hygiene Specialist
- Safety Officer (Systems & Audit)
- HSE Officer (Education Sector)

Program Webpage:

Click Here

Bachelor of Science in Paramedicine (B.Sc. P)

Program Description:

The Bachelor of Science in Paramedicine (B.Sc. P) is a four-year degree that prepares graduates for licensing as a Paramedic in Qatar. The B.Sc. P program is founded on the Canadian National Occupational Competency Profile for Advance Care Paramedicine and EQual Accreditation Canada accreditation standards. An integration of theory, laboratory skills, high-fidelity simulation, and extensive clinical and field preceptorships prepares graduates with the knowledge, skills, and professionalism necessary to function as entry-level Advanced Care Paramedics (ACPs). The B.Sc. P prepares graduates to safely assess and treat traumatic and medical conditions, perform life or limb saving interventions, and safely transport patients. Graduates are employed in a variety of settings, including hospitals and health clinical, roadside, commercial and domestic properties, industrial clinics and sites, mass gatherings, and major incident and disaster management. Students are prepared for future education in the Master of Critical Care Paramedicine.

Program Duration:

Four years

Accreditation:

The Bachelor of Science in Paramedicine (B.Sc. P) is accredited by EQual of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.
2. Eligible applicants must have a valid Qatar driver's license.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as approved uniforms including boots are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.

Bachelor of Science in Paramedicine (B.Sc. P)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Paramedicine (B.Sc. P) program, graduates will be able to:

PEO01. Model professionalism in all aspects of their practice, by demonstrating respect, empathy, cultural sensitivity, and patient advocacy; by maintaining appropriate interactions with patients, coworkers, employers, allied agencies, and the public; by integrating ethical behavior and compliance with all legal requirements; by displaying appropriate deportment and personal hygiene; and by participating in continuing education and professional development
PEO02. Contribute to a safe work environment by maintaining and promoting good physical and mental health; by valuing safety in the performance of their duties; and by recognizing and mitigating the hazards inherent in the practice of paramedicine
PEO03. Apply the knowledge, skills, and abilities gained in the program, combined with sound clinical judgement, to help patients and the community as a whole achieve and maintain optimal health
PEO04. Value evidence-based practice and participate in research activities to support and improve clinical practice, for the betterment of public health and of the profession
PEO05. Actively promote the practice of paramedicine in particular, and health maintenance and injury prevention in general, within the community

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Paramedicine (B.Sc. P) program, graduates will be prepared to:

SLO01. Demonstrate all required skills, knowledge, and abilities, as prescribed by the Canadian National Occupational Competency Profile for Paramedics, for practice at the Advanced Care Paramedic level, and meet local entry-to-practice competencies of a Critical Care Paramedic as defined by the State of Qatar's Ministry of Public Health scope of practice for CCPs
SLO02. Integrate assessment, diagnostic, and treatment procedures into the holistic management of patients in the out-of-hospital setting
SLO03. Use critical thinking and problem-solving skills that promote logical and independent decision making in the provision of evidence-based paramedic care
SLO04. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements
SLO05. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence
SLO06. Model professionalism through personal deportment and public interactions, and through consistent demonstration of ethical behavior, empathy, and respect for individuals
SLO07. Competently perform advanced skills in respiratory and cardiac care, trauma and medical emergencies, obstetrics, pediatrics, and pharmacotherapy

Bachelor of Science in Paramedicine (B.Sc. P)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1040	Applied Science	-	CHEM1041	3	3	0
	CHEM1041	Applied Science (Lab)	-	CHEM1040	1	3	0
	COMM1010	English Communication I	-	-	3	3	0
				Semester 1 Total:	15	15	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSHG2090	Principles of Pharmacology	-	-	3	3	0
	HSHG2210	Communications in Healthcare	COMM1010	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 2 Total:	16	15	3
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSPA1000	Fundamentals of Paramedic Practice	-	-	3	2	3
				Semester 3 Total:	6	5	3
				Year 1 Total:	37	35	12

Bachelor of Science in Paramedicine (B.Sc. P)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSPA2100	Cardiology	HSPA1000	-	4	3	3
	HSPA2101	Emergency Medical Care I	HSPA1000	HSPA2111	3	2	3
	HSPA2111	Clinical Practice in Paramedicine I	-	HSPA2101	4	2	4
	HSPA2150	Occupational Fitness	-	-	2	1	3
	HSPA2360	Mental Health for Paramedics	HSPA1000	-	3	2	2
				Semester 4 Total:	**16**	**10**	**15**
SEMESTER 5	HSPA2202	Emergency Medical Care II	HSPA2101	HSPA2212	3	2	3
	HSPA2212	Clinical Practice in Paramedicine II	HSPA2100 HSPA2111	HSPA2202	2	96 Total HRs	
	HSPA2241	Traumatology I	HSPA2101 HSPA2150	-	4	2	4
	HSPA3165	Pediatrics, Obstetrics, & Neonatology	HSPA2101	-	3	2	3
	MATH2002	Quantitative Designs & Statistics	COMM1010	-	3	3	1
				Semester 5 Total:	**15**	**9**	**11**
SEMESTER 6	HSPA2303	Emergency Medical Care III	HSPA2202	HSPA2313	4	3	3
	HSPA2313	Clinical Practice in Paramedicine III	HSPA2212	HSPA2303	2	1	3
	HSPA2375	Special Patient Populations	HSPA2101	-	3	3	0
				Semester 6 Total:	**9**	**7**	**6**
				Year 2 Total:	**40**	**26**	**32**

Bachelor of Science in Paramedicine (B.Sc. P)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSPA3221	Paramedic Patient Management I	HSPA2303	HSPA3231	3	2	3
	HSPA3231	Paramedic Integration I	HSPA2303 HSPA2313	-	3	0	9
	HSPA3242	Traumatology II	HSPA2241	-	4	3	3
	HSPA3280	Disaster Management	-	-	3	3	0
	HSPA3370	Paramedicine in Primary Healthcare	HSPA2101	-	3	3	0
				Semester 7 Total:	**16**	**11**	**15**
SEMESTER 8	HSPA3341	Ambulance Practicum	HSPA3165 HSPA3231 HSPA3242 within 6 mo.	-	8	504 Total HRs	
				Semester 8 Total:	**8**	**0**	**0**
SEMESTER 9	HSPA4122	Paramedic Patient Management II	HSPA3341	HSPA4132	3	2	2
	HSPA4132	Paramedic Integration II	HSPA3341	HSPA4122	2	96 Total HRs	2
				Semester 9 Total:	**5**	**2**	**4**
				Year 3 Total:	**29**	**13**	**19**

Bachelor of Science in Paramedicine (B.Sc. P)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSPA4223	Paramedic Patient Management III	HSPA3341	HSPA4233	5	4	2
	HSPA4233	Paramedic Integration III	HSPA3341	HSPA4223	4	96 Total HRs	4
	HSPA4285	Management Practice in EMS	-	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 10 Total:	15	10	6
SEMESTER 11	HSPA4342	Critical Care Practicum	HSPA4132 HSPA4233	-	8	504 Total HRs	
				Semester 11 Total:	8	0	0
				Year 4 Total:	**23**	**10**	**6**
				B.Sc. P Program Total:	**129**	**84**	**69**

Graduate Future Pathways:

Graduates of the Bachelor of Science in Paramedicine (B.Sc. P) program will be eligible to apply for the Master of Science in Critical Care Paramedicine (M.Sc. CCP). Completing the M.Sc. CCP will allow graduates to qualify for Critical Care Paramedic positions at Hamad Medical Corporation Ambulance Service (HMCAS) and pursue management positions within the Ministry of Public Health (MOPH). Graduates can also explore career opportunities with the oil and gas industry and military.

Graduate Career Opportunities:

A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Ambulance Paramedic
- Advanced Care Paramedic
- Emergency Care Educator
- EMT Paramedic
- Sport Team Paramedic
- Hospital On-site Paramedic
- Industrial Emergency Response Paramedic
- Oil and Gas Industry On-site Paramedic
- Military Paramedic

Program Webpage:

Click Here

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Program Description:

The Bachelor of Science in Pharmacy Technology (B.Sc. PT) is a four-year degree that prepares graduates to license as a Pharmacy Technician. The B.Sc. PT program is founded on the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians and the World Health Organization Global Standards for Pharmaceuticals Guidelines. An integration of classroom theory, laboratory skills, and practice experiences prepare graduates to dispense medications, prepare sterile and non-sterile compounds, bill third party insurers, and maintain inventories of medications under the supervision of a licensed pharmacist. Graduates have additional skill in drug reconciliation and medication safety, quality assurance, health informatics, automation and robotics that prepare them for entry-level positions in hospitals, primary health care facilities, clinics, community pharmacies, and industry.

Program Duration:

Four years

Accreditation:

The Bachelor of Science in Pharmacy Technology Program (B.Sc. PT) has been awarded International Provisional Accreditation status by the Canadian Council for Accreditation of Pharmacy Programs. For more information, please visit www.ccapp.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two final year Science courses (Biology and Chemistry) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as scrubs and lab coats are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Pharmacy Technology (B.Sc. PT) program, graduates will be able to:

PEO01. Promote pharmaceutical guidance in patient centered care
PE002. Optimize methods and techniques to enhance product preparation, drug dispensing and distribution
PEO03. Extend operational skills related to drug design, discovery and development by delivering synthetic analysis and formulation
PEO04. Perform responsibility in accordance with the industrial guidelines; demonstrate ethical practice and professionalism
PEO05. Function effectively as a team leader, mentoring and coaching junior associates, and assisting employees with their career development and implanting the full life cycle of performance management
PEO06. Take part in professional development to advance knowledge and competence within the pharmacy technology profession to enhance personal career progression

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Pharmacy Technology (B.Sc. PT) program, graduates will be prepared to:

SLO01. Utilize problem solving and decision-making skills to understand and meet stakeholders need
SLO02. Process prescriptions and prepare pharmaceutical products in compliance with current legislation and established standards
SLO03. Demonstrate appropriate written, verbal and non-verbal communication in interacting with patient, health care professionals and coworkers either in a clinical or industrial setup
SLO04. Utilize drug distribution system including preparation of emergency drug box, cardiac tray, anesthetic tray, crash cart, night cupboard and operating room drugs
SLO05. Apply pharmaceutical fundamental knowledge in scientific disciplines related to drug manufacturing, formulation, discovery and development
SLO06. Act in a manner that promotes professionalism, ethical behavior, accountability, global awareness, and social responsibility

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSPT1301	Pharmacy Regulations & Professionalism	-	-	3	3	0
	HSPT1101	Pharmaceutical Calculations I	-	-	3	3	0
				Semester 1 Total:	17	15	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HSPT1201	Pharmacy Computer Systems	-	-	3	2	3
	HSPT2104	Medical Safety, Quality & Drug Reconciliation	-	-	3	3	0
	HSPT1202	Pharmacy Calculations II	HSPT1101	-	3	3	0
				Semester 2 Total:	16	14	6
SEMESTER 3	BIOL1310	Intro to Pathophysiology	BIOL1210	-	3	3	0
	HSPT1203	Pharmacy Management & Inventory Control	-	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 3 Total:	9	9	0
				Year 1 Total:	**42**	**38**	**12**

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSPT2101	Prescription Processing	HSPT1201 HSPT1202	-	4	2	4
	HSPT2102	Pharmacology I	BIOL1210 BIOL1310	-	5	5	0
	HSPT2103	Community Pharmacy Practice	BIOL1310	-	4	3	3
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
				Semester 4 Total:	16	13	8
SEMESTER 5	HSPT2201	Hospital Pharmacy Practice	HSPT1201 HSPT1202	-	3	2	3
	HSPT2202	Aseptic Technique	HSPT1201 HSPT1202	-	4	2	6
	HSPT2203	Pharmacology II	HSPT2102	-	5	5	0
	HSPT2204	Nonsterile Compounding	HSPT1201 HSPT1202	-	3	2	3
	HSHG2080	Ethics in Health Care	-	-	3	3	0
				Semester 5 Total:	18	14	12
SEMESTER 6	HSPT2300	Clinical Work Term	HSPT2201 HSPT2202 HSPT2203 HSPT2204	-	6	360 Total HRs	
				Semester 6 Total:	6	0	0
				Year 2 Total:	40	27	20

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSPT2100	Organic Chemistry for Healthcare	CHEM1030 CHEM1031	-	4	3	2
	HSPT3101	Pharmacy Informatics	HSPT2300	-	3	2	3
	BIOL2010	Microbiology	-	BIOL2011	3	3	0
	BIOL2011	Microbiology (Lab)	-	BIOL2010	1	0	3
	SSHA1002	Introduction to Sociology	-	-	3	3	0
				Semester 7 Total:	**14**	**11**	**8**
SEMESTER 8	HSPT3201	Pharmaceutical Process Technology	HSPT2300	-	3	3	0
	HSPT3202	Pharmacognosy	HSPT2100 HSPT2203	-	3	3	0
	HSPT3203	Pharmaceutical Analysis	HSPT2300 HSPT2100	HSPT3204	4	3	3
	HSPT3204	Biochemistry for Healthcare	HSPT2100	-	3	3	0
				Semester 8 Total:	**13**	**12**	**3**
SEMESTER 9	SSHA1003	Introductory Psychology	-	-	3	3	0
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 9 Total:	**6**	**6**	**0**
				Year 3 Total:	**33**	**29**	**11**

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSPT4101	Biopharmaceutics & Pharmacokinetics	HSPT2203 HSPT3204	-	3	3	0
	HSPT4102	Drug Discovery & Development	HSPT3202 HSPT3204	-	3	3	0
	HSPT4103	Vaccine Development	HSPT3204	-	3	3	0
	HSPT4104	Good Manufacturing Practice	HSPT3201 HSPT3203	-	3	3	0
	HSPT4105	Regulatory Affairs & Pharmaceutical Jurisprudence	HSPT2300	-	3	3	0
				Semester 10 Total:	15	15	0
SEMESTER 11	HSPT4200	Pharmacy Technology Work Term	Min 130 Credits	-	8	480 Total HRs	
				Semester 11 Total:	8	0	0
				Year 4 Total:	23	15	0
				B.Sc. PT Program Total:	138	109	43

Graduate Future Pathways:

Graduates of the Pharmacy Technology (B.Sc. PT) program are equipped to pursue further specialization in their field or graduate-level research.

Graduate Career Opportunities:

Pharmacy Technologists play an important role in supporting the provision of safe and effective medication therapy. The Bachelor of Science in Pharmacy Technology program will provide graduates with a wide range of career opportunities in clinical and industrial pharmacy settings.

- Hospital Pharmacy Technologist
- Pharmaceutical Technologist
- Insurance Company Pharmacy Technologist
- Private Clinical Pharmaceutical Technologist
- Industrial Pharmacy Technologist
- Community Education – Pharmacy Technologist Educator
- Community Pharmacy Technologist
- Pharmaceutical Researcher
- Clinical Pharmacy Technologist

Program Webpage:

Click Here

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Program Description:

The Bachelor of Science in Respiratory Therapy (B.Sc. RT) is a four-year degree that prepares graduates for licensing as a Respiratory Therapist in Qatar. The B.Sc. RT program is founded on Canadian Society of Respiratory Therapists (CSRT) and EQual Accreditation Canada accreditation standards. An integration of theory, laboratory skills, high-fidelity simulation, and extensive clinical experiences prepares graduates to assess, educate, treat, and offer preventive and health care promotion to patients with cardiopulmonary deficiencies across the care continuum. The B.Sc. RT prepares graduates with foundational knowledge and skills to practice in hospitals, community health settings, educational institutions, long term care facilities, clinics, home care, and private practice.

Program Duration:

Four years

Accreditation:

The Bachelor of Science in Respiratory Therapy (B.Sc. RT) is accredited by EQual of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus one final year Mathematics, and successful completion of two of three final year Science courses (Biology, Chemistry or Physics) with a minimum grade of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Year in Health Sciences.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Year in Health Sciences.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Program Information:

1. Documented proof of completed immunizations and diagnostic tests as identified in the student immunization form.
2. Documented proof of current Basic Life Support for Health Care Providers Level 3 certification at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS certification throughout the duration of the program. These requirements may change during the program as determined by the Qatar Ministry of Public Health and clinical partners hosting student placements.
4. Personal Protective Equipment (PPE) such as scrubs and lab coats are needed for labs and clinical practicums.
5. It is the student's responsibility to arrange transportation to and from clinical practicum sites.
6. Additional program costs may include textbooks and a mobile phone which supports access to specialized applications.
7. Students completing this program may choose to apply to write CSRT certification exams at an additional cost.

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Respiratory Therapy (B.Sc. RT) program, graduates will be able to:

PEO01. Demonstrate didactic and clinical competency to become Registered Respiratory Therapists
PEO02. Demonstrate commitment towards the health and wellbeing of the citizens and residents of the State of Qatar
PEO03. Pursue continued education in keeping with current best practices in their respective field of specialty
PEO04. Be successful healthcare practitioners specializing in respiratory care
PEO05. Advocate for respiratory care and actively contribute and serve society, locally and internationally

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Respiratory Therapy (B.Sc. RT) program, graduates will be prepared to:

SLO01. Integrate assessment, diagnostic and treatment procedures into holistic management of respiratory care
SLO02. Use critical thinking and problem-solving skills that promote logical and independent decision making in the provision of evidence-based practices for respiratory care
SLO03. Communicate effectively and work collaboratively with the multidisciplinary health care team in order to serve patients and employers with the highest degree of professionalism
SLO04. Demonstrate ethical behavior, empathy and respects for all individuals
SLO05. Perform advanced skills in critical, emergencies and routine settings
SLO06. Meet entry to practice competences of a Respiratory Therapist as defined by the State of Qatar's Ministry of Public Health scope of practice for Respiratory Therapist
SLO07. Practice and promote the principles of quality management and the efficient utilization of resources
SLO08. Demonstrate a high level of professional conduct at all times in the performance of duty
SLO09. Demonstrate an in depth understanding of the Registered Respiratory Therapist role and function with responsibility and empathy as members of the healthcare team

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	CHEM1040	Applied Science	-	CHEM1041	3	3	0
	CHEM1041	Applied Science (Lab)	-	CHEM1040	1	0	3
				Semester 1 Total:	**15**	**12**	**9**
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSRT1000	Professional Practice in Respiratory Therapy	-	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
				Semester 2 Total:	**16**	**15**	**3**
SEMESTER 3	HSRT1100	Medical Gas Therapy	BIOL1210 CHEM1040	-	4	3	3
	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
				Semester 3 Total:	**7**	**6**	**3**
				Year 1 Total:	**38**	**33**	**15**

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	HSHG2210	Communications in Healthcare	COMM1010	-	3	3	0
	HSRT2200	Cardiopulmonary Pathophysiology I	HSRT1100 BIOL1310	-	4	4	0
	HSRT2210	Pharmacology for Respiratory Therapy	HSRT1100 BIOL1310	-	3	3	0
	HSRT2120	Cardiopulmonary Physiology	HSRT1100 BIOL1310	-	4	4	0
	HSRT2220	Respiratory Techniques	HSRT1100 BIOL1310	-	4	3	3
				Semester 4 Total:	**18**	**17**	**3**
SEMESTER 5	HSRT2300	Airway Management	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	4	3	3
	HSRT2310	Respiratory Therapy Clinical Application I	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	1	36 Total HRs	
	HSRT2320	Cardiopulmonary Pathophysiology II	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	3	3	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
				Semester 5 Total:	**14**	**12**	**4**
SEMESTER 6	HSRT2330	Mechanical Ventilation I	HSRT2300 HSRT2310 HSRT2320	-	4	3	3
	HSRT2340	Respiratory Therapy Clinical Application II	HSRT2300 HSRT2310 HSRT2320	-	1	36 Total HRs	
				Semester 6 Total:	**5**	**3**	**3**
				Year 2 Total:	**37**	**32**	**10**

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 7	HSRT3200	Mechanical Ventilation II	HSRT2330 HSRT2340	-	4	3	3
	HSRT3240	Respiratory Therapy Clinical Application III	HSRT2330 HSRT2340	HSRT3130	1	60 Total HRs	
	HSRT3120	Cardiac Diagnostics	HSRT2330 HSRT2340	-	3	2	3
	HSRT3130	Neonatal Respiratory Care	HSRT2330 HSRT2340	HSRT3240	4	3	3
	HSRT3140	Anesthesia	HSRT2330 HSRT2340	-	3	3	0
				Semester 7 Total:	**15**	**11**	**9**
SEMESTER 8	HSRT3300	Mechanical Ventilation III	HSRT3130 HSRT3200 HSRT3240	HSRT3310	2	1	3
	HSRT3210	Pulmonary Diagnostics	HSRT2120 HSRT2320	-	4	3	3
	HSRT3230	Cardiopulmonary Resuscitation	HSRT3120 HSRT3130 HSRT3200 HSRT3240	-	2	1	3
	HSRT3310	Respiratory Therapy Clinical Application IV	HSRT3120 HSRT3130 HSRT3200 HSRT3240	HSRT3300	2	72 Total HRs	
	HSRT3000	Emerging Trends in Respiratory Therapy	HSRT3200 HSRT3240	-	3	3	0
				Semester 8 Total:	**13**	**8**	**9**
SEMESTER 9	HSRT3330	Respiratory Therapy Practicum I	HSRT3210 HSRT3230 HSRT3310 HSRT3300	-	4	245 Total HRs	
				Semester 9 Total:	**4**	**0**	**0**
				Year 3 Total:	**32**	**19**	**18**

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 10	HSRT4200	Respiratory Therapy Practicum II	HSRT3330	-	9	525 Total HRs	
				Semester 10 Total:	9	0	0
SEMESTER 11	HSRT4300	Respiratory Therapy Practicum III	HSRT4200	-	9	525 Total HRs	
				Semester 11 Total:	9	0	0
				Year 4 Total:	**18**	**0**	**0**
				B.Sc. RT Program Total	**125**	**84**	**43**

Graduate Future Pathways:

Graduates of the Respiratory Therapy (B.Sc. RT) are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Graduates of the Respiratory Therapy (B.Sc. RT) program are eligible to work in hospitals, cardiopulmonary diagnostic labs, and cardiopulmonary rehabilitation centers. A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Acute and Critical Care Respiratory Therapist
- Respiratory Therapy Supervisor/Manager
- Extended Care and Rehabilitation Therapist
- Sleep Therapist/Polysomnographer
- Home Health Care Respiratory Therapist
- Patient Transport Specialist
- Respiratory Care Educator and Researcher
- Disease Management and Health Promotion Specialist
- Pulmonary Function Technologist
- Telehealth Services Specialist
- Clinical Application Specialist/R&D in the Healthcare Industries

Program Webpage:

Click Here

Master's Programs

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Program Description:

The Master of Science in Critical Care Paramedicine (M.Sc. CCP) is a two-year program that emphasizes the practical application of theoretical concepts to prepare paramedics with enhanced critical thinking and decision-making, and advanced clinical skills. The M.Sc. CCP degree is the first of its kind in Qatar. The program highlights the professional role that Critical Care Paramedics (CCPs) play in the holistic management of patients in the out-of-hospital and critical care transport settings. Students advance their knowledge and skill through innovation teaching and learning opportunities, and immersion in state-of-the-art labs and simulation centers. Students complete work experiences in diverse practice settings. The M.Sc. CCP program combines patient-focused learning with scientific disciplines in the areas of emergency medicine to equip graduates with advanced knowledge, skills, and judgement necessary for independent practice as CCPs in various clinical settings. The program is designed to develop the aptitudes to enable graduates to become leaders in shaping the future of the profession.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Science in Paramedicine from UDST; OR
2. Bachelor degree in Paramedicine from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, and
2. Curriculum Vitae (C.V.), and
3. Two confidential recommendation letters, preferably one professional and one academic, and
4. A satisfactory performance in the personal interview with the Admissions Committee, and
5. Current licensure/registration as an Advanced Care Paramedic, or equivalent scope of practice, with a recognized licensing body.

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Critical Care Paramedicine (M.Sc. CCP) program, graduates will be able to:

PEO01. Model professionalism; appropriate interactions; ethical behavior; appropriate deportment
PEO02. Contribute to a safe work environment; recognizing and mitigating hazards inherent in paramedic practice
PEO03. Apply knowledge, skills, and abilities gained, combined with sound clinical judgement
PEO04. Value evidence-based practice and participate in research activities
PEO05. Develop as leaders in the profession, and actively promote the practice of paramedicine, health maintenance and injury prevention

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Critical Care Paramedicine (M.Sc. CCP) program, graduates will be prepared to:

SLO01. Demonstrate mastery of the competencies required for practice, and integrate advanced procedures into the holistic management of patients
SLO02. Use critical thinking and problem-solving skills, enhanced by clinical experience, to provide evidence-based paramedic care
SLO03. Reflect professionalism through personal deportment and public interactions
SLO04. Demonstrate ethical behavior, empathy and respect for individuals
SLO05. Display strong leadership abilities, reasonable and prudent judgement, effective problem-solving skills, constructive feedback, and effective teamwork and delegation
SLO06. Conduct research and present findings
SLO07. Meet entry-to-practice competencies of a Critical Care Paramedic as defined by the Ministry of Public Health

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	AHHG2030	Biostatistics	MATH1010 OR AMPII Score of 75%	-	3	2	3
	MACC5110	Advanced Diagnostics	-	MACC5120	5	4	4
	MACC5120	Advanced Patient Management I	-	MACC5110	5	4	4
				Semester 1 Total:	**13**	**10**	**11**
SEMESTER 2	MACC5210	Research Design & Methods	AHHG2030	-	2	2	2
	MACC5220	Critical Care Transport	MACC5110 MACC5120	MACC5230	4	3	5
	MACC5230	Advanced Clinical Integration I	MACC5110 MACC5120	MACC5220	3	120 Total HRs	4
				Semester 2 Total:	**9**	**5**	**11**
SEMESTER 3	MACC5300	Intensive Care Practicum	MACC5220 MACC5230	-	3	168 Total HRs	
				Semester 3 Total:	**3**	**0**	**0**
				Year 1 Total:	**25**	**15**	**22**

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	MACC6100	Graduate Research Project I	MACC5210	-	2	2	2
	MACC6110	Advanced Patient Management II	MACC5300	MACC6120	4	2	8
	MACC6120	Extended Care Principles & Practices	MACC5300	MACC6110	2	2	2
				Semester 4 Total:	8	6	12
SEMESTER 5	MACC6200	Graduate Research Project II	MACC6100	-	2	2	2
	MACC6210	Advanced Clinical Integration II	MACC6110 MACC6120	-	4	240 Total HRs	
				Semester 5 Total:	6	2	2
SEMESTER 6	MACC6300	Critical Care Paramedicine Preceptorship	MACC6210	-	6	294 Total HRs	
				Semester 6 Total:	6	0	0
				Year 2 Total:	20	8	14
				M.Sc. CCP Program Total:	45	23	36

Graduate Future Pathways:

Graduates of the Master of Science in Critical Care Paramedicine (M.Sc. CCP) are equipped to pursue further specialization in their field or research.

Graduate Career Opportunities:

Graduates of the Master of Science in Critical Care Paramedicine (M.Sc. CCP) are eligible to work as Critical Care Paramedics with Hamad Medical Corporation's Ambulance Service, Qatar's national paramedic service, which operates under the Ministry of Public Health. A wide range of career opportunities in the field currently exist, including but are not limited to the following:

- Ambulance Service Paramedic
- Military Paramedic
- Air Medical Response Paramedic
- Pediatric Care Response Paramedic
- Acute Patient Inter-Facility Transport Paramedic
- Mobile ICU Response Team Paramedic
- Hospital Emergency Department Paramedic
- Paramedic Instructor

Program Webpage:

Click Here

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Program Description:

The Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) is a two-year interprofessional program that emphasizes the practical application of theoretical concepts to prepare health professionals for comprehensive and expert diabetic care and for leadership roles in the management of diabetes. The M.Sc. DCPE program is founded on national and international diabetes education standards, frameworks, and competencies, including from the International Diabetes Federation and the American Association of Diabetes Care and Education Specialists (ADCES). Students advance their knowledge and skill through innovative teaching and learning opportunities, and immersion in experiential learning in state-of-the-art labs and simulation centers. Students complete placements in diverse practice settings. Graduates are prepared to integrate patient-centered care, to apply principles and best practices for cardiometabolic disorders education, to leverage technology, and to support the emotional well-being of people living with diabetes.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Science or Applied Science from UDST; OR
2. Bachelor degree in a related health care field from an accredited higher education institution with a minimum GPA of at least 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Directorate; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, 20 in speaking, and 35 in writing; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the Bachelor degree and/or post graduate diploma presented upon application, and
2. Curriculum Vitae (C.V.), and
3. Two confidential recommendation letters, preferably one professional and one academic, and
4. A satisfactory performance in the personal interview with the Admissions Committee, and
5. Current licensure/registration with a recognized registry/ licensure body.

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) program, graduates will be able to:

PEO01. Demonstrate the integration of advanced specialized knowledge and skills into clinical practice and diabetes self - management education
PEO02. Demonstrate commitment towards advocacy and communication about the quality of diabetes care and outcomes for those living with or at risk of diabetes and cardiometabolic disorders
PEO03. Demonstrate competence in the provision of patient - centered care leading to behavior change and improved quality of life for self-management of diabetes and cardiometabolic disorders across the lifespan
PEO04. Demonstrate competence in the application of diabetes care clinical practice guidelines and contribution to research and continuous quality improvement activities in the practice setting
PEO05. Develop, plan, implement and analyze diabetes care and education activities and professional projects
PEO06. Utilize the latest technology to fulfill the role of a Diabetes Educator / Diabetes Care and Education Specialist

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) program, graduates will be prepared to:

SLO01. Evaluate current evidence-based theories, practice, and clinical standards of diabetes care
SLO02. Develop patient care/management plans utilizing evidence-based principles of teaching & learning practice
SLO03. Integrate the social determinants of health into diabetes management
SLO04. Discuss the implications of major diabetes research results for practice
SLO05. Examine professional and ethical laws, regulations, and policies relevant to diabetes care practice
SLO06. Prioritize effective strategies in health communication, critical thinking, clinical judgement, and decision making

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 1	MADC5110	Organization of Diabetes Care	-	-	3	3	0
	MADC5120	Teaching & Learning Practice in DSME Programs	-	-	4	3	3
	MADC5130	Diabetes Prevention & Health Promotion	-	-	3	3	0
	MADC5140	Clinical Aspects of Diabetes Care	-	-	3	3	0
	MADC5150	Diabetes Management I: Nutrition & Physical Activity	-	-	4	3	3
	MADC5000	Diabetes Care Calculations	-	-	1	1	0
				Semester 1 Total:	**18**	**16**	**6**
SEMESTER 2	MADC5210	Diabetes Management II: Pharmacotherapy & Technology	MADC5150	-	4	3	3
	MADC5220	Pediatric & Adolescent Diabetes Education	MADC5110 MADC5120 MADC5130 MADC5140 MADC5150	-	3	3	2
	MADC5230	Diabetes in Special Populations	MADC5110 MADC5120 MADC5130 MADC5140 MADC5150	-	3	3	0
	MADC5240	Microvascular & Other Complications	MADC5120 MADC5130 MADC5140	-	3	3	2
	MADC5250	Cardiometabolic Disorders	MADC5120 MADC5130 MADC5140	-	3	3	2
				Semester 2 Total:	**16**	**15**	**9**
SEMESTER 3	MADC5310	Diabetes Educator Practicum	Successful completion of all Semester 1 and 2 courses	-	5	245 Total HRs	
				Semester 3 Total:	**5**	**0**	**0**
				Year 1 Total:	**39**	**31**	**15**

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
			Pre-Req	Co-Req		LEC	LAB
SEMESTER 4	MADC6110	Research Methods in Diabetes Care & Management I	-	-	3	3	2
				Semester 4 Total:	3	3	2
SEMESTER 5	MADC6220	Research Methods in Diabetes Care & Management II - Thesis or Professional Project	MADC6110	-	3	3	2
				Semester 5 Total:	3	3	2
SEMESTER 6	MADC6330	Research Methods in Diabetes Care & Management III - Thesis or Professional Project	MADC6110 MADC6220	-	1	1	2
				Semester 6 Total:	1	1	2
				Year 2 Total:	7	7	6
				M.Sc. DCPE Program Total:	46	38	21

Graduate Future Pathways:

Graduates of the Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) program are equipped to pursue further specialization in their field or post-graduate research.

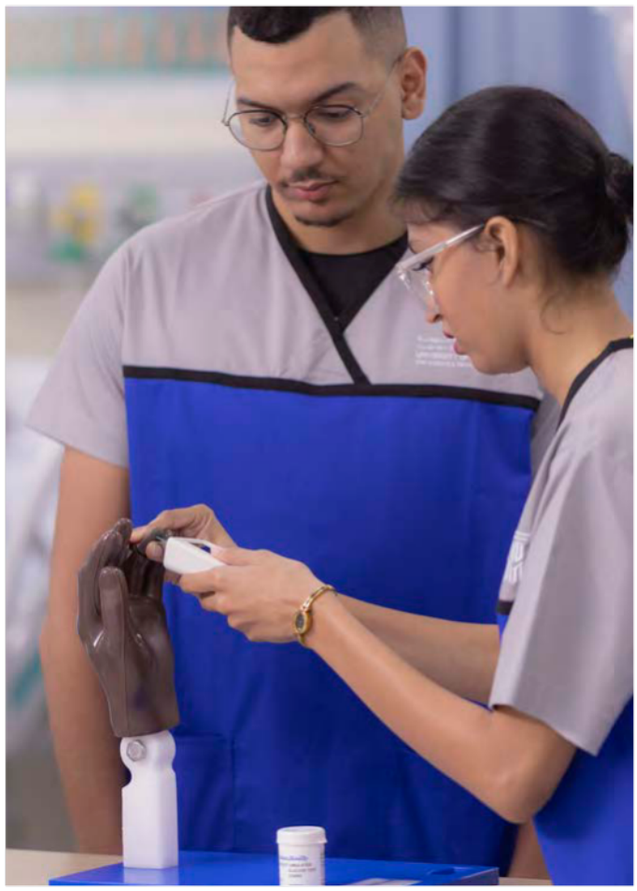
Graduate Career Opportunities:

Given the prevalence of diabetes in the State of Qatar, there is a need for health care providers with advanced knowledge and skills in Diabetes Care and Patient Education. Graduates of the program will practice in various settings nationally and internationally. A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Diabetes Educator – Hospital Setting
- Diabetes Educator – Community Setting
- Diabetes Educator – Academic Setting
- Diabetes Care and Education Specialist
- Patient Educator
- Patient Educator Coordinator
- Diabetes Educator – Public Health Setting
- Patient Educator – Public Health Setting
- Patient Education Supervisor

Program Webpage:

Click Here



Course Descriptions

ACAD1000 ACADEMIC READING & WRITING
Prerequisites: FENG1002 OR Min Score on AEP
This course is designed to help students achieve proficiency in reading and writing at a CEFR B2 level. Students are introduced to reading strategies, academic and subject-specific texts and language, summary and report writing, and grammar essentials. Students aim to achieve proficiency in applying these communication skills to their subject matter.

ACCT1001 FINANCIAL ACCOUNTING
This course introduces the student to the objectives, principles, assumptions, and foundational concepts of financial accounting within the context of international financial reporting standards (IFRS). It focuses on accounting concepts including: the basics of the double-entry accounting system; analysis and recording of business transactions; preparation of the trial balance; adjusting entries; financial statement preparation; accounting for a merchandising company; plant assets, natural resources and intangibles; current liabilities; equity and related accounting for corporations; and analysis of financial statements. It introduces the basic accounting techniques which enable businesses to collect, record, and summarize their economic activities and generate information to appraise progress to date. Students learn accounting techniques to design and monitor systems to collect, record and summarize business transactions and interpret the results to date.

ACCT2001 MANAGERIAL ACCOUNTING
Prerequisites: ACCT1001
This course introduces students to Managerial Accounting - what it is, how it differs from Financial Accounting, and why it is important. Management Accounting concepts are introduced with a grounding in fundamental accounting principles as it explores how accounting information is used internally to help managers make informed decisions around planning and controlling an organization's resources, as well as performance measurement and evaluation. Students are introduced to the fundamentals of Managerial and Cost Accounting, including cost classification and behaviors, allocation of overhead, various cost allocation methods (Job Order Costing, Process Costing, Activity Based Costing), product costing and pricing, cost-volume-profit analysis, as well as segmented reporting. An applied learning approach is taken, with problem solving applied extensively throughout.

ACCT2003 INTERMEDIATE FINANCIAL ACCOUNTING I
Prerequisites: ACCT1001
This course focuses on the conceptual framework that forms the basis of accounting and financial reporting. The framework is applied in the accounting cycle to prepare an Income Statement and related equity statements, Statement of Financial Position and Statement of Cash Flows in accordance with International Financial Reporting Standards. The Statement of Financial Position will focus primarily on the asset side of the balance sheet with emphasis on cash and receivables, inventory, property, plant and equipment and intangible assets.

ACCT2005 INTERMEDIATE FINANCIAL ACCOUNTING II
Prerequisites: ACCT2003
This course continues the study of the principles and procedures covered in Intermediate Financial Accounting I. The course presents an in-depth study of the liabilities and owner's equity components of the Statement of Financial Position. There is also an in-depth analysis of the function and usage of the Statement of Cash Flows. International Financial Reporting Standards are highlighted where possible. Spreadsheets are used extensively throughout to facilitate applied learning opportunities.

ACCT2010 QUANTITATIVE METHODS FOR DECISION MAKING
The course aims to provide students with the knowledge and skills of applying a variety of quantitative analytical tools to support business decision making. The course is delivered by using lectures and IT workshops which concentrate on the development of spreadsheet skills and analysis. The course leads to the development of basic analytical skills and confidence in handling numeric data using a spreadsheet. In doing so, it exposes students to a wide range of quantitative techniques for use in modelling, analysis and interpretation of business problems. Students are made aware of the role of modelling as an aid to business problem solving. Furthermore, they gain an understanding of the role of MS Excel as an aid to data analysis and the development of various business problem-solving models.

ACCT3001 ADVANCED COSTING & MANAGERIAL ACCOUNTING
Prerequisites: ACCT2001
This course builds on students' existing knowledge of cost (classifications, behavior, systems) and application of costs to products and customers. Management planning, control, and decision making is explored in more depth through concepts that underpin strategic management such as budgeting, flexible budgeting, standard costing, variance analysis, responsibility accounting, performance evaluation, differential analysis, relevant cost analysis, as well as cash flows pertaining to capital budgeting. The course explores how these concepts help managers make sound business decisions while incorporating risk management, and how management accounting is a vital factor in the growth and success of an organization. An applied learning approach is taken, with problem solving throughout.

ACCT3005 ACCOUNTING INFORMATION SYSTEMS
Prerequisites: ACCT2003
This course demonstrates the importance of the Accounting Information System for an organization and the role it plays in management's decision-making processes. Students learn the role that accountants and auditors play in designing the effectiveness and security of an AIS. They learn to identify the weaknesses in the internal controls within AIS and how to fix them. Students learn how AIS tools are used to record, process, and analyze financial data; determine how best to integrate AIS tools and processes in a given organization; review and recommend controls to secure AIS applications and processes; and evaluate how technology can be used in AIS applications. Students also learn the use of different modules of accounting software such as the general ledger, accounts payable, accounts receivable, and purchases.

ACCT3007 FINANCIAL REPORTING & ANALYSIS
Prerequisites: ACCT2003
This course is intended as one of the courses that help map students' progress toward the CFA Designation. It is designed to allow students to study a company's past performance and be able to estimate its future performance utilizing the knowledge and skills gained and developed in accounting, finance, and economics courses. The students learn to read a set of financial statements, calculate the ratios, and apply them to make financial decisions. Students examine the impact of various issues on the reported numbers including the reporting of tangible and intangible assets, continued and discontinued operations, historic cost versus fair value accounting and business combinations. The course focuses on developing students' critical thinking and synthesizing skills by providing an opportunity for them to explain the reasoning behind different reporting.

Course Descriptions

ACCT3009 FINANCIAL MODELLING

Prerequisites: ACCT2003

The aim of this course is to equip students with the knowledge and tools to implement financial models using Excel. Students learn the most useful Excel functions, add-ons and formulas to build financial models, perform lookups, assess risk and scenarios and build reports. A financial model is simply a tool that is built in spreadsheet software such as MS Excel to forecast business financial performance into the future. The course introduces students to the general principles of building financial models, as well as a number of specific financial modelling tools. These methods are applied to a range of practical problems in finance, including financial statement modelling, business valuation, and how to perform Excel sensitivity analysis.

ACCT3010 PLANNING, BUDGETING, & FORECASTING

Prerequisites: ACCT3001

This course is a higher-level course taken as part of a select group of courses that help map students' progress toward the Managerial Accounting Designation. It builds on students' existing knowledge of managerial and cost accounting concepts including cost concepts, budgeting, standard costing, variance analysis, responsibility accounting, performance evaluation, differential analysis, pricing, product mix, as well as cash flows pertaining to capital budgeting. In this course, management planning, control, and decision making is explored in greater depth as the strategic management concepts of budgeting and forecasting are expanded upon. Students explore how to prepare static and flexible budgets, use standard costing, analyze variances, and utilize current and historic accounting data and information to forecast and predict future revenues and costs. Strategic decision making and critical thinking is emphasized along with technical coverage. An applied learning approach is taken, with problem solving and possibility spreadsheet facilitation applied extensively throughout.

ACCT4001 AUDITING & ASSURANCE SERVICES

Prerequisites: ACCT2005

This course provides an overview of the audit process, different assurance policies and procedures, the role and responsibilities of auditors, the structure of the profession, and the auditor's report. Students investigate auditing control concepts, auditing reports, the auditing cycle, risk management, and the general environment related to public accounting. This course explores different ethical and legal professional environments in which audit and assurance providers operate. Students develop practical perspectives into contemporary work practice in the field of auditing. Students apply the concepts and process used by audit and assurance services providers to gather evidence and formulate judgment with respect to underlying information.

ACCT4005 CONTEMPORARY TOPICS IN ACCOUNTING

Prerequisites: ACCT2003

This course explores key areas of contemporary interest and their impact on financial statements and accounting in general in an IFRS context. Students examine contemporary "hot topics" in accounting. These include the contemporary corporate tax environment with global compliance and tax planning opportunities; the corporate reporting shift from numbers to narrative; contemporary challenges in audit; corporate social responsibility with respect to the finite nature of many resources and the social issues that accompany growth; challenges of the circular economy; technology challenges in accounting and finance; as well as looking at accounting beyond the numbers - a look at non subject-specific skills such as self-leadership, communication skills, creativity and problem-solving skills and how these are becoming critical in the contemporary world of accounting.

ACCT4007 ADVANCED FINANCIAL ACCOUNTING

Prerequisites: ACCT3007

This course is designed to provide students with financial reporting and business skills that are applicable in an international professional environment. This course introduces students to complex accounting topics in an International Financial Reporting Standards (IFRSs) context by introducing current topics in accounting relevant to today's business environment. Students investigate and examine different conceptual knowledge of advance accounting topics related to business combinations, inter-corporate investments, consolidation, foreign currency translation, accounting for leases, accounting for post-retirement benefits, accounting for income taxes and accounting for financial instruments. Students develop analytical thinking skills to apply knowledge learned and to use related disciplines to analyze specific accounting standards and to execute different tasks within the course.

AEAC2101 INDUSTRIAL PROCESSES, MEASUREMENT & CONTROL

Prerequisites: AEPC1203

In any industrial manufacturing process and operation, measurement and control are essential to producing a quality product. This course presents an overview of industrial measurement and control designed to reinforce the concepts in pressure, level, flow, and temperature measurement and control. Various types of sensors and transmitters used to measure process variables, common control strategies, and control valve types are covered. Students also learn basic instrument calibration and maintenance as well as interpreting common instrumentation drawings (P&ID, ILD, PFD, etc.). Through a variety of lectures and group discussions, students acquire the necessary knowledge of industrial processes, measurement, and control.

AEAC2102 INDUSTRIAL INSTRUMENTATION

Prerequisites: AETN2101

In the field of industrial instrumentation, knowledge of installation standards and safe practices is essential. This course presents an overview of the hazards present in industrial workplaces regarding events such as the confinement of an explosion inside an enclosure, the isolation of an ignition source, and the limitation of an energy flow. Through a variety of lectures and group discussions, students also study safe wiring practices in hazardous areas, industrial air system components and piping systems, standard practices in the installation of instrumentation components requiring pipe or tube connections, and the safe use of common hand tools and power tools.

AEAC2103 CONTROL STRATEGIES

Prerequisites: AEAC2101

In many areas of engineering, advanced control strategies are essential to achieving certain control objectives. This course covers advanced PID control strategies and methods for improving control quality over processes using special control, including process disturbances and regulatory control systems such as feedforward control, cascade control, and ratio control which provide predictive and PID controllers with additional logic to enhance control performance. Split range control and application of different control strategies in boiler control is also covered in this course. Through a variety of lectures and group discussions, students acquire the necessary knowledge of Advanced Control Strategies.

Course Descriptions

AEAC2113 PLC PROGRAMMING & CONTROL

Prerequisites: AEEP2122, AETN1102

Programmable Logic Controllers (PLC) are essential tools for industrial automation and control. This course introduces students to general concepts, programming techniques, and programming languages for PLCs for digital and analog inputs and outputs, for on/off control, and for proportional control. This course also covers how to develop function block programs and link them to a Human Machine Interface (HMI). The control strategies taught in this course start with basic PID control and progresses to more complex control strategies. Lectures, discussions, and group work teach students the basic concepts of PLC programming and control.

AEAC2201 INDUSTRIAL PROCESSES, MEASUREMENT & CONTROL (LAB)

Prerequisites: AEPC1203

Co-requisites: AEAC2101

In any industrial manufacturing process or operation, measurement and control are essential to producing a quality product. This course presents an overview of industrial measurement and control designed to reinforce the concepts of pressure, level, flow, and temperature measurement and control. The course provides students with the opportunity to gain knowledge and skill in testing and calibrating common instruments (sensors, transmitters, etc.) and interpreting common instrumentation drawings (P&ID, ILD, PFD, etc.). Through demonstrations and hands-on lab activities, students acquire the necessary knowledge and considerations of industrial processes, measurement, and control.

AEAC2202 INDUSTRIAL INSTRUMENTATION PRACTICES

Prerequisites: AETN2201

Co-requisites: AEAC2102

In the field of industrial instrumentation, knowledge of installation standards and safe practices is essential. This course presents an overview of the various hazards present in industrial workplaces and best safety practices. The course explores topics such as safe wiring in hazardous areas, interpretation of electrical device enclosure markings, protection methods in hazardous areas, and industrial air systems. Students also gain hands-on experience with instrument piping, tubing installation, and support fabrication, as well as various hand and power tools. Through a variety of lectures, demonstrations, and practical activities, students acquire the necessary knowledge of Industrial Instrumentation practices.

AEAC2203 CONTROL STRATEGIES (LAB)

Prerequisites: AEAC2201

Co-requisites: AEAC2103

This course covers advanced PID control strategies and methods that are applied to improve control quality over processes. This includes performance analysis of advanced control strategies such as feed-forward control, cascade control, ratio control, and split-range control through actual building of the strategy circuit and simulator software. Also covered in this course are practical activities involving the application of advanced control strategies in fire-tube type boiler control systems, boiler operation fault analysis, and start-up-shutdown operation procedures for boilers. Using simulator software and a variety of hands-on lab activities with common devices and test equipment used in industries, students acquire the necessary knowledge and considerations of advanced control strategies.

AEAC2213 PLC PROGRAMMING & CONTROL (LAB)

Prerequisites: AEEP2222, AETN1202

Co-requisites: AEAC2113

Programmable Logic Controllers (PLC) are essential tools for industrial automation and control. This course applies and demonstrates the general concepts, programming techniques, and programming languages for PLCs. The students develop and test programs using function block programming. The course starts with basic Proportional Integral Derivative control and progresses to more complex strategies. This course is delivered through active hands-on lab sessions.

AEAC3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on-the-job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEAC3101 SYSTEM AUTOMATION & EMBEDDED SYSTEMS

Prerequisites: AEEP2301

Industrial automation is becoming more important in all areas of engineering where embedded systems are part of the technologies we depend on in modern life. Engineers must have the skills to use and understand this advanced technology. This course provides students with specialist knowledge and skills for the use of Automation systems including sensors, actuators, pneumatics, and hydraulics. The course also teaches embedded systems and controllers, microcontrollers, sensor reading, actuator control, digital to analog converting, and other topics that are important for Automation and Control Engineers. The course is taught through lectures and a co-requisite lab course.

AEAC3102 SAFETY SHUTDOWN & INSTRUMENTED SYSTEMS

Prerequisites: AEAC3111

Process Control engineers and engineering technologists need to understand basic shutdown systems on boilers and the safety shutdown systems found in the oil and gas industry. This course is delivered through lectures and demonstrations of important systems as the student learns to describe and analyze these systems.

AEAC3111 PROCESS CONTROL APPLICATIONS

Prerequisites: AEAC2103

Process control has many applications in many industries. In this region, where the oil and gas industry predominate, Automation Engineers must have the skills and the knowledge of process control related to this field. Through lectures and a co-requisite practical lab course, this course teaches the technology and control of oil and gas equipment starting from crude oil extraction to oil refinery systems. In order effectively provide technical solutions to industrial control applications, students must have an intimate understanding of the process under control. This course provides students with advanced knowledge of a variety of process applications that allow them to maximize process unit productivity while minimizing operating costs. Through lectures, discussions, group work, and hands on demonstrations of working industrial processes, students learn the basic concepts of advanced process control.

Course Descriptions

AEAC3112 DCS & SCADA
Prerequisites: AEAC2113
Distributed Control Systems (DCS) are used in large industrial installations to provide complex and comprehensive control solutions for modern processes. This course reviews the history of DCS and provide a comparison of DCS to modern Programmable Logic Controllers (PLC) / Human Machine Interface (HMI) and Supervisory Control and Data Acquisition (SCADA) systems. The course provides the students with the knowledge to troubleshoot and modify existing configurations, control strategies, and operator interfaces for a DCS. Lectures, discussions, and group work provide instruction on the basic concepts of DCS utilization.

AEAC3122 INDUSTRIAL PROCESS ANALYSIS
Prerequisites: AEAC2101
This course introduces the student to process analysis. Process Analyzers are important to plant automation to prevent processes from being used that are not within parameters. Process Analyzer principles are applied to the study of conductivity, ORP, pH, humidity, turbidity and other electro-chemical analyzers. The course also introduces students to analyzer measurement applications. The course reviews electrochemical principles as they apply to corrosion and corrosion control in industry. The student learns how control of industrial processes by electrochemical methods.

AEAC3201 SYSTEM AUTOMATION & EMBEDDED SYSTEMS (LAB)
Prerequisites: AEEP2301
Co-requisites: AEAC3101
Industrial automation is becoming more important in all areas of engineering where embedded systems are part of the technologies we depend on in modern life. Engineers must have the skills to use and understand this advanced technology. This course provides students with opportunities to learn to utilize different types of sensors and actuators to perform the desired controls. In the labs, students develop skills to understand and build pneumatic and hydraulic control circuits as well as microcontrollers using sensors and actuators. This course is taught through lab experiments and a co-requisite lecture course.

AEAC3202 SAFETY SHUTDOWN & INSTRUMENTED SYSTEMS (LAB)
Prerequisites: AEAC3211
Co-requisites: AEAC3102
Safety Shutdown and Instrumented Systems are critical to a plant's automation and safety. The engineering student installs, tests, measures, and controls equipment and devices used with safety shutdown and instrumented systems in a lab setting. The course also introduces software that can be used for process and optimization.

AEAC3211 PROCESS CONTROL APPLICATIONS (LAB)
Prerequisites: AEAC2203
Co-requisites: AEAC3111
This course provides the practical demonstrations of the process control concepts. The course demonstrates and applies the concepts of advanced process control applications, allowing students to maximize process unit productivity while minimizing operating costs. The students study a Three Phase Separator, a Fluidized Catalytic Cracker, a Fluidized Flasher, a Binary Distillation unit, an Exothermic Chemical Reaction, and a Gas Absorption unit. Hands on demonstrations allow the student to learn the basic concepts of advanced process control.

AEAC3212 DCS & SCADA (LAB)
Prerequisites: AEAC2213
Co-requisites: AEAC3112
Distributed Control Systems (DCS) are used in large industrial installations to provide complex and comprehensive control solutions for modern processes. This course demonstrates and applies the concepts of DCS to enable the students to troubleshoot and modify existing configurations, control strategies and operator interfaces. The students configure and calibrate Foundation Fieldbus equipment and demonstrate the interaction of a Proportional Integral Derivative (PID) controller with a Human Machine Interface (HMI) to verify the proper control of a process loop. This course is delivered through a number of hands-on lab exercises.

AEAC3222 INDUSTRIAL PROCESS ANALYSIS (LAB)
Prerequisites: AEAC2201
Co-requisites: AEAC3122
This course provides basic instrumentation techniques for chemical analysis in the chemical process industries with analytical equipment in a process laboratory setting using on-line equipment. Techniques covered include analytical measurement and control, gas and liquid chromatography, and mass spectrometry. These techniques are the same techniques used in industry to analyze processes.

AEAC3321 TECHNOLOGY CAPSTONE PROJECT I
Prerequisites: Min 71 Credits
This capstone project enables the student completing an Advanced Diploma in the Automation and Control Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEAC3332 TECHNOLOGY CAPSTONE PROJECT II
Prerequisites: AEAC3321
The capstone project enables the student completing an Advanced Diploma in the Automation and Control Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEAC4101 ROBOTICS & INTELLIGENT CONTROL
Prerequisites: AEAC3101
Robotics technology and robot-based applications are getting more important in all industrial aspects. Engineers must have the skills to use and understand this advanced technology. The course teaches the fundamentals of robotics technology and intelligent control. The course covers both mobile robots, manipulators, and related topics to give the ability to understand and analyze robotic for industrial applications or research. Industrial robotic systems are complex and have nonlinear behaviors, therefore, new methodologies are required to design and develop intelligent controllers such are fuzzy logic and neural networks. As robotics and intelligent controllers is a very wide field, this course is based on selected important topics in this technology. This course is taught through a series of lectures.

Course Descriptions

AEAC4102 AI & MACHINE LEARNING FOR PROCESS CONTROL

Prerequisites: AEAC4101, MATH2010, RSST3001 OR RSST3002
Machine learning is rapidly becoming one of the most important areas of general practice, research and development activity within Applied Systems and Controls Engineering. This course presents the core mathematical and statistical techniques required to understand some of the most popular machine learning algorithms and then presents some of these algorithms that span the main problem areas within machine learning: classification, clustering, and projection. The course is delivered through lectures, MATLAB and/or Python based assignments, and case studies. At the end of the course, the students should have the knowledge and confidence to be able to explore machine learning to find methods that are more appropriate for industrial process control and machine health monitoring.

AEAC4112 CYBER SECURITY & INDUSTRIAL IOT

Prerequisites: AEAC3112, AEAC3101
In this course, students learn basics of the IoT and the IIoT. General characteristics of cloud solutions to connect IoT based architecture of some current Cloud offerings are be emphasized. Also, various standardized communication protocols towards the industrial manufacturing space/shopfloor and towards the cloud, MES/ MOM/ SCADA are covered. Moreover, this course explains the fundamental concepts and algorithms of machine learning and cloud computing algorithms enabling students to build various simple applications to view and control data from the PLC, CNC, and robotics-controlled machines using the IoT. Additionally, students are introduced to importance of the cyber-security through basic cyber-security implementations. This course is delivered through series of lectures.

AEAC4201 ROBOTICS & INTELLIGENT CONTROL (LAB)

Prerequisites: AEAC3201
Co-requisites: AEAC4101
Robotics technology and robot-based applications are becoming more important in all industrial aspects. Engineers must have the skills to use and understand this advanced technology. This lab provides the students with the different skills in robotics and intelligent control. The students build different types of robots that are used in the industry, mobile robots, and manipulators. They design, develop, and implement different control algorithms and applications using different sensors and actuators. This course is taught through lab experiments and a project and a co-requisite lecture course.

AEAC4202 AI & MACHINE LEARNING FOR PROCESS CONTROL (LAB)

Prerequisites: AEAC4201, MATH2010, RSST3001 OR RSST3002
Co-requisites: AEAC4102
Machine learning is rapidly becoming one of the most important areas of general practice, research and development activity within Applied Systems and Controls Engineering. This lab course allows students to gain knowledge of various machine learning methods such as classification, clustering, and projection. The student uses MATLAB and/or Python for handling data and to solve machine learning problems. Students gain the knowledge and confidence to be able to explore machine learning to find methods that are more appropriate for Industrial Process Control.

AEAC4212 CYBER SECURITY & INDUSTRIAL IOT (LAB)

Prerequisites: AEAC3212, AEAC3201
Co-requisites: AEAC4112
Through a series of lab-based exercises, students gain practical hands-on skills in identifying security threats and implementation of cyber security for ICS networks via configuration of hardware (Routers, Switches, Servers, Firewalls etc.). The students design end-to-end applications connecting various devices/ controllers via IoT enabled devices to the cloud and build simple applications to view the data and control variables. They apply cyber-security in IoT and understand the considerations and approaches to address connectivity and data security challenges. The course also allows students to apply machine learning and cloud computing algorithms to build various simple applications to view and control data from the PLC, CNC, and robotics-controlled machines using the IoT.

AEAC4311 CAPSTONE PROJECT I

Prerequisites: Min 80 Credits
Co-requisites: AEEP4100
The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEAC4322 CAPSTONE PROJECT II

Prerequisites: AEAC4311
The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AECE1200 INTRODUCTION TO CONSTRUCTION ENGINEERING, MATERIALS & METHODS

Co-requisites: CHEM1010
It is essential for junior construction engineering students to have a basic knowledge of the construction field, including construction materials and methods. In this course, students learn basic building materials and systems used in constructing buildings, bridges, and infrastructure projects. The course teaches the use of common materials and systems in works related to projects such as foundations, structural framing/ skeleton, building envelops, facades, and finishes. Through a variety of lectures, group discussions, and site visits, students acquire this necessary basic knowledge along with other pertinent construction industry considerations.

AECE1230 MECHANICAL & ELECTRICAL SYSTEMS IN CONSTRUCTION

Co-requisites: AECE1200, AEEL1100
Mechanical, electrical, and pumping systems are essential components of any built facility. Construction engineers and technologists need to understand the fundamentals of such systems and the coordination that is necessary for their installations. Through a variety of lectures, group discussions, and site visits, students acquire the necessary exposure to, and knowledge of, mechanical, electrical, and plumbing installations in construction projects and their interrelations with structural, finishing, and other building systems.

Course Descriptions

AECE1340 BASIC CONSTRUCTION SAFETY
Prerequisites: AECE1200
Safety awareness during construction projects is paramount. Junior construction engineering students need to have a basic awareness of safety and potential hazards related to the execution and operation phases of construction projects. This course presents an overview of safety issues, primarily those pertinent to the execution of construction works. The course defines different industry terms concerned with construction safety and the international standards for observing and regulating safety on construction sites. Through a variety of lectures and group discussions, students acquire the necessary knowledge of basic construction safety awareness.

AECE2100 CONSTRUCTION DOCUMENTS & CODES
Prerequisites: AECE1200, AEMA1312
Construction engineers very often deal with an array of contracts and documents with which they need to be familiar. This course introduces the principles of the documentation and formation of contract documents used in commercial constructions. It also discusses the constituents of construction contract documents and construction agreements and how they differ for various project delivery methods and critical issues in contracts. Through a variety of lectures and group discussions, students acquire the necessary understanding and knowledge of the structure of construction contracts and the interrelationships among their key components.

AECE2110 PRINCIPLES OF ENGINEERING ECONOMY
Prerequisites: MATH1020 OR AMPII Score of 85%
Construction engineering professionals need to have a good understanding of the economic evaluation of alternatives in the context of construction projects and related investments. This course discusses the time value of money, present and annual worth analysis, rate of return, taxes, depreciation, inflation, and decision making in the context of uncertainty. Students perform basic and insightful economic feasibility analysis of construction projects and related investments.

AECE2120 STATICS
Prerequisites: MATH1020 OR AMPII Score of 85%
Construction engineers need to be familiar with engineering statics as the foundation for understanding the basics of both permanent and temporary structures. This course outlines the vector mechanics of forces and moments; free-body diagrams; equilibrium of particles and rigid bodies in two and three dimensions; plane and space trusses; frames and machines; axial, shear, and moment diagrams of beams and simple frames; friction; center of gravity and centroid; area moment of inertia; and computer applications.

AECE2130 PRINCIPLES OF GEOMATICS
Prerequisites: AEMA1312, MATH1020 OR AMPII Score of 85%
Basic surveying measurements and computations, mapping, and construction layout are essential occupational skills that construction engineers should have. This course covers the science and technology of earth measurement data that includes collection, sorting, management, planning and design, storage, and presentation of the data. Through course work, students understand the principles of geo-measurement, including leveling for earthwork, linear and area measurements (traversing), mapping, and GPS/GIS.

AECE2131 PRINCIPLES OF GEOMATICS (LAB)
Co-requisites: AECE2130
Basic surveying measurements and computations, mapping, and construction layout are essential occupational skills that construction engineers should have. This course covers the science and technology of earth measurement data that includes collection, sorting, management, planning and design, storage, and presentation of the data. Through this lab work, students learn about field surveying techniques.

AECE2140 PROJECT DRAWINGS & GRAPHICS
Prerequisites: AEMA1312
Co-requisites: AECE2100
Using new software technologies for visualization, communication and the graphical analysis of problems is a necessary skill for designers and construction engineers alike. This course explains the principles of construction graphics, applications, and simulation of construction designs. Through course work and projects, students gain the right competencies to enable the visualization of engineering designs and simulation of construction activities.

AECE2210 ENGINEERING GEOLOGY
Prerequisites: PHYS1020, CHEM1010
Construction engineers work with different types of soil material but also need to be familiar with their geological properties. This course discusses the composition and properties of rocks; geologic processes; geologic hazards; geologic structure and engineering consequences; terrain analysis and geologic mapping; the interpretation and use of geologic maps; and the application of geology to engineering practices.

AECE2220 CONSTRUCTION EQUIPMENT & MACHINERIES
Prerequisites: AECE1200
Co-requisites: AECE2210
Construction engineers need to know the various types of construction equipment employed in construction. This course teaches the proper selection of construction equipment and the concepts related to the productivity and economic aspects of the construction equipment that are applied as part of construction methods and processes. Through a variety of lectures and group discussions, students acquire the knowledge and skills to make the proper selection of construction equipment and machinery for the adopted methods of construction.

AECE2230 STRENGTH OF CONSTRUCTION MATERIALS
Prerequisites: AECE1200, AECE2120
Construction engineers need to know the mechanics of different construction materials, their strengths, limitations, and methods of testing. This course covers stresses, strains, and stress-strain relationships; temperature; axial bars in tension and compression; torsion of circular bars; bending and shear stresses in beams; combined stresses; stress transformation; and Mohr's circle.

AECE2231 STRENGTH OF CONSTRUCTION MATERIALS (LAB)
Prerequisites: AECE1200
Co-requisites: AECE2230
Construction engineers need to know the mechanical properties of different construction materials, their strength, limitations, and methods of testing. This course examines the composition and properties of common construction materials. Through a variety of hands-on laboratory work and experiments, students acquire the necessary skills and knowledge about the common construction materials, their testing methods, equipment, and standards.

Course Descriptions

AECE3000 WORK PLACEMENT
Prerequisites: Min 85 Credits
This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Construction Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on-the-job training promotes students' awareness of key concepts and terminology in the field, encourages the development of professional autonomy and collaboration, and enhances the capacity to analyze and reflect on demonstrated abilities in the workplace.

AECE3100 SOIL MECHANICS
Prerequisites: AECE2210, AECE2230
Construction engineers need to know the mechanics of soils, which are the materials most often handled by construction equipment and which affect the efficiency of excavation and dredging activities and the safety of excavation slopes. This course introduces students to the basic elements of geotechnical engineering and familiarizes them with standard soil testing through a laboratory and training component. It also covers soil classification, compaction, and consolidation; permeability and seepage in saturated soils; total and effective stress concepts; stress-deformation and strength characteristics of soils; and failure criteria.

AECE3101 SOIL MECHANICS (LAB)
Co-requisites: AECE3100
Construction engineers need to know the mechanics of soils, being the materials often handled by construction equipment and affecting the efficiency of excavation and dredging activities and the safety of excavation slopes. This course complements the coverage of the basic principles of soil mechanics. Through laboratory work, students gain an understanding of the geotechnical properties of soils and apply their relevant testing methodologies.

AECE3120 CONSTRUCTION PLANNING & SCHEDULING
Prerequisites: AECE1200, AECE1230, AECE2220
One of the most important tasks for construction engineers is to plan and schedule construction projects. This course covers the fundamentals and techniques of planning and scheduling a construction project. Students gain an understanding of the interdependencies among the scope, quality, time, and budget of a project. It also covers topics such as WBS, risk estimation, critical path networks, Gantt charts, and resource allocation and levelling. Students plan a project using recognized software and complete problem-solving exercises.

AECE3210 CONSTRUCTION COST ESTIMATION
Prerequisites: AECE1200, AECE1230, AECE2220
Cost estimation of construction projects and contracts are key skills construction engineers need to have. This course covers the concepts for creating a cost-estimate for a construction project. Estimating costs requires an understanding of the costs of construction resources, both permanent and applied, including materials, equipment, labor, and the estimation methods. Topics include an introduction to construction costs, the different estimating techniques, preconstruction services, pricing, determining profit, and preparing a bid. Problem-solving and case studies provide students with a real-world understanding of cost estimation.

AECE3220 BUILT-FACILITY MAINTENANCE & REPAIR
Prerequisites: AECE2100, AECE2230
Co-requisites: AECE3230
Maintenance of the built facility aims at keeping it in a condition where it can continue to serve its intended purpose and planned functions. This course describes the main causes of concrete distresses and failure in buildings and other structures and the suitability of methods of repair for specific applications. Through classwork and lectures, students learn the main factors leading to deterioration and failures in the built facilities. The students also have exposure to the most used and effective methods of repairs.

AECE3230 STRUCTURAL ENGINEERING
Prerequisites: AECE2230, MATH2010
The design and analysis of engineering structures are essential for construction engineers. This course covers the principles of structural analysis and the design of engineering and construction-site structures. It also reviews the principles of statics; the analysis of statically determinate plane frames; the deflection of statically determinate beams; indeterminate structures; influence lines for structures; and computer applications in structural engineering. Through course work, students learn of the different forces and deformations affecting structures and the methods used for structure modelling and analysis.

AECE3321 TECHNOLOGY CAPSTONE PROJECT I
Prerequisites: AECE2230
Co-requisites: RSST3001 OR RSST3002
The capstone project enables the student completing a Diploma in Construction Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on project task work under the guidance of a faculty member. The project is developed in teams of two/three to carry out study of a problem, design or technological application, with the proposal development during capstone I, and the project implementation in capstone II. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AECE3332 TECHNOLOGY CAPSTONE PROJECT II
Prerequisites: AECE3321
The capstone project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the advanced diploma in engineering technology to demonstrate the application of skills knowledge, and competencies developed throughout the program. Under the guidance of a project advisor, students work in teams of two or three on a project independently with minimal supervision to carry out an in-depth study of a problem, troubleshooting, configuration of technological application, and fully document and present their findings.

AECE4100 CAPSTONE PROJECT I
Prerequisites: AECE3230, RSST3001 OR RSST3002
Co-requisites: COMM3010
Engineering senior students must demonstrate the knowledge, skills, and competencies gained during the previous three years of study in a capstone project. Under the guidance of a faculty member, students work individually or in teams of up to three on a project independently with minimal supervision to carry out an in-depth study of a problem, design, or technological application, and fully document and present their findings. At the end of Capstone Project I, students will have completed a proposal of their capstone project I that is then executed in Capstone Project II.

Course Descriptions

AECE4101 APPLIED DIFFERENTIAL EQUATIONS
Prerequisites: MATH2010
This course focuses on the application of mathematics to problems derived from construction engineering fundamentals such as fluid mechanics, structural engineering, and other related applications. It also covers the formulation and solution of ordinary and partial differential equations arising in construction engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AECE4110 CONSTRUCTION CONTRACT ADMINISTRATION
Prerequisites: AECE2100
This course covers the common contracts and documents used in commercial construction projects and examines the relationship between different project delivery methods, stakeholders' roles and responsibilities, contract components, and legal and dispute issues. Students explore these concepts through case studies and practical exercises.

AECE4111 CONCRETE TESTING (LAB)
Prerequisites: AECE3230
Co-requisites: AECE4120
Concrete is a widely used material in all types of construction projects. This course introduces construction engineering students to the array of tests that are performed on both fresh and hardened concrete. Through several laboratory sessions, students test concrete samples and cylinders and interpret results pertaining to concrete hydration rates under different settings and air entrapped or entrained in fresh concrete mixes. They are also introduced to destructive and non-destructive tests of hardened concrete specimens and elements.

AECE4120 CONCRETE & STRUCTURAL SYSTEMS DESIGN & BEHAVIOR
Prerequisites: AECE3230
Structural design and behaviors are key tasks for construction and civil engineers. The course introduces the fundamentals of design for structural systems made of reinforced concrete, steel, and/or composite materials. Students build on their understanding of basic mechanics to learn new concepts such as compressive stress and strain in concrete and other materials. Through course work, students demonstrate practical applications of the latest design specifications and codes for widely used structural systems.

AECE4130 SITE OPERATIONS MANAGEMENT & CONTROL
Prerequisites: AECE1200, AECE2220
Construction engineers devise and manage various complex processes on project sites, which employ a spectrum of resources that handle soil and other materials or contribute to the incorporation of permanent materials into the works. This course discusses site layout design and logistics that form the infra- structure for performing construction activities. It also covers topics related to productivity concepts, work measurements, and improvement methods. Students view, manage, and control construction operations from a systems perspective.

AECE4200 CAPSTONE PROJECT II
Prerequisites: AECE4100
In their capstone project, students demonstrate their knowledge, skills, and competencies built in previous courses. It enables those completing their engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member and with minimal supervision, students work independently or in teams of two or three to carry out an in-depth study of a problem, design, or technological application and fully document and present their findings. After their research or project design, students submit a project report to include all technical, economic, and ethical analyses of the project outcomes.

AECE4210 HIGHWAY & PAVEMENT ENGINEERING
Prerequisites: AECE2130, AECE2230, AEMA1312
Construction engineers are involved in constructing highways and other infrastructure facilities. This course covers topics related to the design, construction, and maintenance of highway facilities. Students learn about highway alignment and the geometric design process, highway materials selection and pavement types, and highway construction and maintenance activities.

AECE4220 FACILITY & INFRASTRUCTURE ASSET MANAGEMENT
Prerequisites: AECE2210, AECE3220
Facility management of established projects is one essential duty of construction engineers. This course exposes construction engineers to a proven, cost-effective infrastructure asset management framework that integrates planning, design, construction, maintenance, rehabilitation, and renovation. Through this course, students become familiar with the current methodologies for effectively managing roads, bridges, airports, utility services, water and waste facilities, parks, public buildings, and sports complexes.

AECE4230 CONSTRUCTION PROJECT MANAGEMENT
Prerequisites: AECE3120
Project Management is the professional task that construction engineers perform at the workplace. This course covers the fundamentals of controlling projects to meet the time, quality, scope, and budget goals. It also examines the relationship between project planning and control, as well as variance analysis and forecasting. It further covers the importance of meeting contractual obligations and discusses schedules, budgets, stakeholders, resources, and risk management. Students put theory into practice with case studies and practical exercises.

AECH1100 ENVIRONMENTAL AWARENESS & ETHICS
Engineers need to be aware of the environmental concerns and ethical issues when designing/operating equipment or systems. This course presents an overview of environmental concerns in the oil and gas industry including the effects of the industry on the environment and vice versa. Professional practice and ethics are covered to enable the learner to understand ethical and legal expectations within the industry and profession. An introduction to environmental science is also provided, as well as coverage of pollution and the interactions between petroleum and various components of the environment. Through a variety of lectures and group discussions, students acquire the necessary knowledge to take into consideration the environment and ethics in any operation or design of systems and components.

AECH1103 INDUSTRIAL PROCESS OVERVIEW
Prerequisites: CHEM1020 OR CHEM1030
It is important to show junior chemical engineering students an overview of the industrial process. This course introduces students to chemical industries on a global level, while focusing more specifically on local Petro Chemical Industries. Students explore natural gas and petroleum processing, as well as polymers, petrochemicals, fertilizers, steel, and aluminum industrial processes. Through a variety of lectures and group discussions, they acquire the necessary knowledge to understand common basic industrial processes.

Course Descriptions

AECH1112 HEALTH, SAFETY & ENVIRONMENT IN THE PROCESS INDUSTRIES

Health and safety awareness as well as environmental awareness are essential components of the operation, trouble shooting and designing of chemical processes. This course introduces the application of the principles of health, safety and environmental management to process industries such as Oil and Gas, Chemicals, Pharmaceuticals, Petrochemicals, or Food. It introduces a broad range of topics, including common safety and environmental issues associated with process safety. Through a variety of lectures and group discussions, students acquire the necessary knowledge to demonstrate students' competence in general health and safety, process safety, and environmental management.

AECH1201 BASIC ENGINEERING CALCULATIONS

Engineers and technicians are expected to develop an understanding and feeling of units and basic calculations. The course introduces students to basic engineering calculations and measurements. Students become familiar with various types of measurement systems and learn to set up and perform various experiments according to a given procedure. Topics include basic concepts of measurement methods, measurement of length, time, mass, volume, pressure, velocity, flow rate, temperature, power, and energy. Through a variety of lecture and group discussion, students acquire the necessary knowledge and understanding of units and basic measurements.

AECH2103 LEADERSHIP & MANAGEMENT PRINCIPLES

Prerequisites: AECH1100, COMM1020

Management is an integral part of engineering and technical work. This course introduces essential leadership concepts and management principles to students in engineering fields. Leadership theories and styles are explored with students to establish a foundation of knowledge and understanding that guides future practice. Role-play, case studies, and real-life examples are employed to support students in acquiring necessary management practices of effective leaders such as team and group goal development, performance monitoring, conflict resolution, and effective communication skills. Through a variety of lectures and group discussions, students acquire the necessary knowledge of leadership theories and practices.

AECH2111 PRINCIPLES OF CHEMICAL ENGINEERING I

Prerequisites: AECH1201, CHEM1020, PHYS1020, MATH1010, MATH1020 OR AMPII Score of 85%

Chemical Engineering and Technician students need to be aware of the basic principles in material and energy balances. This course introduces material and energy balance concepts and calculations used in the chemical processing industry. Students learn the methods to formulate and solve problems in a structured format. Students also learn to construct and analyze block diagrams, process flow diagrams, and piping and instrumentation diagrams. The stoichiometry of industrial chemical reactions is examined, and calculations associated with these are performed. Through a variety of lectures and group discussions, and assignments students learn performing material and energy balance.

AECH2112 SUSTAINABILITY & RENEWABLE ENERGY

Prerequisites: AECH1100

Engineering design, operation and maintenance of systems and components need to consider sustainability and alternative sources of energy. This course presents an overview of renewable energy resources, introduces current and emerging technologies to exploit these resources, and places these technologies in context with environmental, political, and economic constraints in the context of sustainability. The course explores society's present needs and future energy demands, examines conventional energy sources and systems, including fossil fuels. Alternate, renewable energy sources, such as wind power, geothermal, hydro energy (conservation), solar and biomass energy conversion methods are emphasized. Through a variety of lectures and group discussions, students acquire the necessary knowledge and considerations of sustainable and renewable systems.

AECH2113 QUALITY ASSURANCE

Prerequisites: COMM1020

Quality assurance in the operation and production of chemical units is essential, particularly for Good Manufacturing Practice. This course introduces the concepts, philosophy, and application of Total Quality Management (TQM) and emphasizes the integration of TQM philosophy into the production process. It also discusses the development of quality control procedures and documentation, including reference to existing industry quality control specifications. Through lectures and projects, students learn about the quality principles of assurance and audits.

AECH2121 PROCESS CONTROL SYSTEMS

Prerequisites: AEPC1203

Process automation and control are essential components of chemical process operation. This course introduces students to the elements needed for the design and implementation of process control in chemical process industries. It provides students with the basics of proportional, integral, and derivative (PID) controls as well as an overview of more advanced systems and control strategies. Through a variety of lectures and group discussions, students learn to select a suitable advanced control technique for a specific chemical process.

AECH2122 PRINCIPLES OF CHEMICAL ENGINEERING II

Prerequisites: AECH2111

Chemical Engineering and Technician students need to be aware of the principles of advanced material and energy balances as well as multiple phase processes. This course introduces single phase and multiphase equilibrium, advanced material and energy balance calculations and solutions on multiple unit systems used in the chemical processing industry. Students learn methods to formulate and solve problems in a structured format. Through exercises and lectures, students learn to solve problems on reactive processes including fuels and combustion systems and solution of simultaneous material and energy balance equations.

AECH2131 PHYSICAL CHEMISTRY FOR CHEMICAL ENGINEERS

Prerequisites: CHEM1020

This course introduces students to the concepts of physical chemistry based around systems, states, and processes. Main topics of this course include microscopic and macroscopic depiction of matter, properties of pure materials, first and second law of thermodynamics, phase equilibria and phase change, mixtures and mixture properties and chemical reaction kinetics. The delivery of this course includes lectures and active learning exercises.

Course Descriptions

AECH2142 BASIC FLUID MECHANICS & HEAT TRANSFER
Prerequisites: AECH2111, MATH1020 OR AMPII Score of 85%
Fluid mechanics and heat transfer are essential basic sciences needed to design and operate many industrial equipment. This course introduces the laws and principles that govern fluid flow and heat transfer. The course examines fluid flow for non-compressible fluids and extends the concepts to compressible flow. It also covers the fundamental aspects and quantification of different modes of heat transfer. Students apply these theoretical concepts to solve fluid flow and heat transfer problems common to engineering applications. Through lectures and exercises, students are able to apply fundamentals of fluid mechanics and heat transfer to solve problems in industrially relevant applications such as reactors and heat exchangers.

AECH2241 CHEMICAL & PROCESSING PLANT OPERATION
Prerequisites: AECH1103
Co-requisites: AECH2121
Operations of chemical processes are essential components of the vocation of chemical engineers as well as chemical engineering technician. This course provides an opportunity for students to learn the role and responsibilities of a process operator through hands-on labs in a pilot plant. Students operate process units from the field and panel perspective. Through operation of a pilot plant as well as running experiments, students understand the operation of most common chemical plant process.

AECH2251 INSTRUMENTATION & CONTROL (LAB)
Prerequisites: AEPC1203
Co-requisites: AECH2121
Instrumentation and Control are essential components of chemical process control. This laboratory introduces students to process control systems. It provides students with the basics of proportional, integral, and derivative (PID) controls as well as an overview of more advanced systems and control strategies. Through experimental work, the students apply the basic operation principles of control systems and accessories of control system.

AECH2331 PROCESS EQUIPMENT
Co-requisites: AECH2111
Operation of chemical plants requires the need to understand the common process equipment and the method of operation. This course introduces students to the principles, operation, and general maintenance requirements of common processing equipment. Students learn to operate and maintain heat exchangers, pumps, compressors, turbines, valves, and other ancillary process equipment.

AECH2332 CHEMICAL & PROCESSING PLANT TROUBLESHOOTING
Prerequisites: AECH2241
Successful troubleshooting is a key success factor for chemical engineers and chemical engineering technician. Through this course, students establish and apply a general troubleshooting methodology to chemical process equipment. Definitions of good/normal performance are discussed for each process/equipment type covered. Criteria to use when evaluating possible problem solutions are examined. Students practice troubleshooting real-world chemical process equipment malfunctions. Through the operation of a pilot plant, students learn methods of troubleshooting, identify root cause analysis, and change malfunction devices.

AECH3000 WORK PLACEMENT
Prerequisites: Min 85 Credits
This is an on-the-job training opportunity that follows the successful completion of the second semester of the third year of the Bachelor of Science in Chemical Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on-the-job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AECH3101 APPLIED FLUID MECHANICS
Prerequisites: AECH2142
Chemical engineers need to be aware of fluid mechanics. This course introduces the laws and principles that govern incompressible fluid flow. To support theoretical studies, students conduct tests that demonstrate the real behavior of fluids while comparing findings to calculated values. The course emphasizes the application of theoretical principles to the practical mechanics that govern fluid flow. Through lectures, group exercises, students learn to solve fluid mechanics equations and calculate power requirements, friction, and propose different types of pumps and compressors for different applications.

AECH3132 CHEMICAL REACTION ENGINEERING
Prerequisites: AECH2122, MATH2010
This course introduces students to chemical reactors and addresses the study of batch and continuous stirred tank reactors. Students use simulation and laboratory work to safely and correctly start up, shut down, control, and troubleshoot reactors. Through lectures and exercises, students learn to size different reactor types.

AECH3222 FLUID MECHANICS & HEAT TRANSFER (LAB)
Prerequisites: AECH3101, AEMA3142
Chemical engineers need to be aware of fluid mechanics and heat transfer equipment. This course covers the basic laboratory tasks in understanding the principles that govern fluid flow and heat transfer. The course examines fluid flow for non-compressible fluids and extends the concepts to compressible flow. It also covers the fundamental aspects and quantification of different modes of heat transfer. Students perform laboratory activities to reinforce the theoretical concepts. Through experimental work, students shall be able to calculate energy loss and heat transfers in different media.

AECH3302 APPLIED THERMODYNAMICS
Prerequisites: MATH1030, PHYS1020
Thermodynamics is an essential component of chemical engineering science. This course presents the laws of thermodynamics and their applications. It covers different topics such as forms of energy, open and closed systems, work and heat, P-V-T properties of pure fluids and steam tables, the first two laws of thermodynamics, introduction to cycles, entropy concept (open and closed systems), and basic ideas of heat engines. Through lectures and exercises, students learn to apply the laws of thermodynamics in open and closed systems.

Course Descriptions

AECH3321 PROCESS UNIT DESIGN
Prerequisites: AECH2122
This course consolidates knowledge, experience, and skills gained by students from the chemical processing technology courses to solve open-ended chemical engineering and related industrial process design problems. Students develop competencies in screening the best alternative equipment for a proposed process or a treatment equipment using heuristics rules and then using commercial process simulator for optimizing the design and operation of several kinds of equipment. Students conduct hand calculations and simulator for sizing and costing the major individual equipment. Through simulation software, lectures, and hand calculations, student shall be able to design, size, and estimate cost of main process equipment in chemical industries.

AECH3331 TECHNOLOGY CAPSTONE I
Prerequisites: AECH2142
The capstone project enables the student completing a Diploma in the Chemical Processing Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AECH3332 TECHNOLOGY CAPSTONE II
Prerequisites: AECH3331
The Capstone project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the technology degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member, students work individually or in teams on a project independently with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. Through the span of the project research or design, students shall be able to submit project report to include all technical, economical and ethical analyses of the project outcomes.

AECH4102 APPLIED DIFFERENTIAL EQUATIONS
Prerequisites: MATH2010
This course focuses on the application of mathematics to problems derived from chemical engineering fundamentals such as fluid mechanics, heat transfer, mass transfer, and reaction kinetics. It also covers the formulation and solution of ordinary and partial differential equations arising in chemical engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AECH4112 PROCESS SAFETY MANAGEMENT
Prerequisites: AECH1112, AECH2122, AECH2331
This is a professional Course (NEBOSH) that chemical engineers require as part of their academic program. In this course, students use industry-recognized standards and methodologies to assess risk, measure its magnitude, and develop plans to minimize and control it. Students review case studies from the oil and gas and chemical process industries to demonstrate the necessity for comprehensive risk management systems. Process safety analysis/risk management is applied. Through the delivery standard of NEBOSH materials and lectures, students learn to analyze multiple risks and safety aspects.

AECH4122 CHEMICAL INDUSTRIES & TECHNOLOGY
Prerequisites: AECH1103, CHEM3010
Main processes in chemical engineering in general, oil and gas industry specifically, rely heavily on mass transfer and separation processes. This course presents the concepts and techniques necessary for students to design and operate equilibrium-based multistage and continuous contacting unit operations in chemical process engineering. It familiarizes the students with the principles and applications of mass transfer processes such as gas-liquid, liquid-liquid, and solid-liquid systems. Through lectures and exercises, student shall be able to explain different separation processes.

AECH4210 MASS TRANSFER & SEPARATION PROCESSES
Prerequisites: AECH2331, AECH3321
Chemical engineering, in general, and the oil and gas industry, specifically, rely heavily on mass transfer and separation processes. This course presents the concepts and techniques necessary for students to design and operate equilibrium-based multistage and continuous contacting unit operations in chemical process engineering. It familiarizes the students with the principles and applications of mass transfer processes such as gas-liquid, liquid-liquid, and solid-liquid systems. Through lectures and exercises, students learn to explain different separation processes.

AECH4211 PLANT DESIGN & ECONOMICS
Prerequisites: AECH3321
Plant design of chemical process and economics are key terminal knowledge in chemical engineering, therefore, it is very essential course for the chemical engineering senior students. This course allows students to explore the fundamentals of computer-aided simulation of chemical processes in complete plant design. Students use their process simulation project developed in the previous process unit design course to model, redesign, test, optimize, and integrate all processes in the selected plant. Students use Excel for estimation of the capital, manufacturing costs as well as economic and profitability analyses. Through software simulation and application of prior knowledge of chemical engineering sciences and safety aspects, student shall be able to design plants, optimize them, and cost estimate them.

AECH4221 CHEMICAL REACTION ENGINEERING (LAB)
Prerequisites: AECH3132
This course introduces students to experiments conducted on batch, continuous stirred tanks, and plug flow reactors. Students learn how to plan and independently realize laboratory experiments using different chemical reactors, including measuring reactant quantities, temperature control, and analyzing equipment. Through lab work, students understand and use the factors in chemical reactor design.

AECH4232 MATERIALS & CORROSION
Prerequisites: CHEM3010
This project-based course focuses on corrosion issues which are one of the significant challenges for chemical engineers while selecting the appropriate design materials. It introduces students to the physical and mechanical properties of materials commonly used in the chemical processing industries. Additionally, it explores the factors that promote the corrosion of these materials when used in industrial processes. Finally, students examine various means of controlling and monitoring corrosion and corrosion processes in chemical industries. Through presentations and project commencement, students understand different types of corrosion and protection and practice the skills to select suitable materials for equipment or utility design.

Course Descriptions

AECH4301 CAPSTONE PROJECT I

Prerequisites: AECH3321
Co-requisites: AEMA4100, COMM3010
Engineering students in their final year must demonstrate the knowledge, skills and competencies gained during the previous three years of study in a capstone project. Under the guidance of a faculty member, students work individually or in teams on a project independently with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end this course, students will have completed a proposal of their capstone project I that may be executed in Capstone Project II.

AECH4302 CAPSTONE PROJECT II

Prerequisites: AECH4301
The Capstone Project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member, students work individually or in teams on a project with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. Through the span of the project research or design, students shall be able to submit project report to include all technical, economical and ethical analyses of the project outcomes.

AECH6101 SAFE DESIGN & OPERATIONS

This It is important for process safety professionals to understand the main principles of safe design and operation of processes. This course examines the principles of inherent safe designs for chemical processes within defined safe operating systems. Safety principles of high temperature and high-pressure operations, exothermic and runaway reactions, plant design considerations and unit operations safety are covered.

AECH6102 ADVANCED PROCESS SAFETY MANAGEMENT

Prerequisites: AECH6101
Safety management is a core work requirement for process safety engineers and professionals. This course introduces advanced methods in process safety management. It gives learners information on the establishment of a safety management system to prevent major industrial accidents in case study driven scenarios. This course introduces students to a framework for risk-based process safety using a set of case studies.

AECH6111 CHEMICAL PROCESS SAFETY & HAZARDOUS MATERIALS

Identification of hazardous materials is an important aspect of the work of process safety professionals. This course provides the concept of process safety in chemical processes and hazardous materials. It introduces students to advanced topics in the application of safety in chemical engineering processes with the practical application of the technology in industry using real-world experiential learning via site visits and safety reports. This course provides information to determine the danger of chemicals, possible risks, control and making safety plan with handling chemicals / hazardous materials.

AECH6112 EMERGENCY RESPONSE & CRISIS MANAGEMENT

Prerequisites: AECH6121
This course provides a comprehensive exploration of emergency response and crisis management within the framework of process safety. Students gain a deep understanding of regulatory requirements, risk assessment methodologies, and the development of effective emergency response plans. Various categories of the incidents (e.g., Tier 1,2 &3) and Incident Command Systems (ICS) for managing emergency response are covered. Practical skills in crisis management, decision-making under pressure, and the coordination of resources are also emphasized. Finally, the course examines the integration of technology for communication and the importance of conducting regular emergency drills to enhance organizational preparedness.

AECH6121 HAZARD IDENTIFICATION & RISK MANAGEMENT

It is essential for process safety engineers and professionals to have proper hazard identification and risk management skills. This course provides students with an appreciation of the broad range of risks faced by process industries for which a range of risk management strategies are required - from feasibility, planning and design, through to normal operations. The course introduces students to the processes of hazard identification, risk assessment, and a number of risk management strategies available. In the context of process industry hazards and safety related risks, the course also reviews a number of case studies and accident investigation reports.

AECH6122 ETHICAL, ENVIRONMENTAL & LEGAL COMPLIANCE

Prerequisites: AECH6111
Ethical and environmental compliance is an essential professional requirement for process safety professionals. This course provides a comprehensive exploration of the ethical, environmental, and legal considerations in the field of process safety management. Students explore ethical principles, sustainability practices, and legal frameworks governing industrial processes. The course emphasizes the development of ethical decision-making skills, understanding legal compliance requirements, and integrating environmentally sustainable practices into process safety management. Through case studies and real-world examples, students develop practical insights into navigating complex ethical, environmental, and legal challenges in the field.

AECH7102 EXPERIMENTAL DESIGN & DATA ANALYTICS

This course examines principles and methodologies of designing and analyzing experiments across diverse scientific domains. It includes fundamental guidelines for experiment design, the intricacies of simple comparative experiments, and the application of advanced statistical techniques, such as analysis of variance (ANOVA), and factorial designs. Students gain practical insights into the implementation of randomized blocks, Latin squares, and specialized designs, along with addressing challenges like blocking and confounding in factorial experiments. Additionally, the course provides a hands-on approach to data fitting, regression analysis, and the application of nested and split-plot designs. By the conclusion of the course, students demonstrate the skills required to design robust experiments, apply statistical methodologies, and critically analyze experimental data to contribute meaningfully to scientific research.

Course Descriptions

AECH7111 SAFETY CULTURE, HUMAN CENTERED DESIGN & STRESS MANAGEMENT

Prerequisites: AECH6122

This course examines safety principles and cultural considerations in chemical plant environments. This includes human-centered design principles, ergonomic considerations, risk perception, decision-making, employee stress management, communication, training for safety, incident investigation, legal and ethical aspects of safety, and continuous improvement. Students engage in application of knowledge in real world scenarios through case studies related to these topics.

AECH7201 PROCESS SAFETY THESIS I

Prerequisites: AECH6122
Co-requisites: AECH7102

This introductory thesis course aims to enable students to apply the knowledge acquired in different subject areas during the program to conduct a comprehensive research project and produce an original thesis. The project can be independent original research or industrial case study, and can involve industry and academic supervision.

AECH7301 EMISSION MEASUREMENT TECHNIQUES & EXPOSURE LIMITS

Prerequisites: AECH6111, AECH6122

Identifying risk and hazard through measurements of emissions are important skills for process safety engineers. This course provides a comprehensive overview of emission measurement techniques and exposure limits within the context of process safety management. It covers the principles and methodologies of measuring and controlling emissions of hazardous substances in industrial processes. Students gain practical skills in selecting and implementing measurement technologies, interpreting exposure limits, and designing effective control strategies. Case studies and real-world examples are used to illustrate the application of concepts in ensuring workplace safety and compliance with regulatory standards.

AECH7302 PROCESS SAFETY THESIS II

Prerequisites: AECH7201

This advanced thesis course enables students to build on the research that was started in the prior thesis course. Students build on this project which culminates in a comprehensive research project. The project can be independent original research or industrial case study, and can involve industry and academic supervision.

AEEL1100 FUNDAMENTALS OF ELECTRICITY

Prerequisites: MATH1010 OR AMPII Score of 75%

This course introduces non-electrical applied engineering students to electrical power fundamentals and basic applications. This course covers engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Additionally, it covers the applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law and analysis of DC circuits, basics of Alternate Current (AC) theory and the application to identify characteristics of circuits and equipment commonly found in industrial installations.

AEEL1101 FUNDAMENTALS OF ELECTRICITY I

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This course explores fundamental circuits, covering engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Also discussed are topics such as applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law, the analysis of DC circuits, networks analysis with DC current and voltage sources, branch-current analysis, and mesh and nodal analysis. Through lectures, discussions, and group work, student learn the basic concepts of electrical circuits.

AEEL1102 FUNDAMENTALS OF ELECTRICITY II

Prerequisites: AEEL1101

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. A continuation of AEEL1101, this course provides students with an understanding of AC circuit analysis using complex numbers and phasors. Topics include fundamentals of magnetism, inductance, fundamentals of AC, frequency characteristics, and series and parallel AC circuits. Students use Multisim software for applied knowledge and skills. Through lectures, discussions, and group work, students learn and apply concepts of AC electrical theory.

AEEL1200 FUNDAMENTALS OF ELECTRICITY (LAB)

Co-requisites: AEEL1100

This laboratory course introduces non-electrical applied engineering students to electrical power fundamentals and basic applications. This course covers engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Additionally, it covers the applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law and analysis of DC circuits, basics of Alternate Current (AC) theory and the application to identify characteristics of circuits and equipment commonly found in industrial installations.

AEEL1201 FUNDAMENTALS OF ELECTRICITY I (LAB)

Co-requisites: AEEL1101

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This lab is intended to provide students with the hand-on skills in building and troubleshooting electrical circuits, using electrical equipment such as power supplies and developing competency in using measurement devices such as digital multi-meters. The labs include resistors, color codes, and power rating, introduction to Multisim software, series DC circuits, parallel DC circuits, series parallel DC circuits, Superposition principle, Thevenin's theorem and maximum power transfer. Through experimentation, simulation and group work, students use hands-on experience to put theoretical concepts into practice.

AEEL1202 FUNDAMENTALS OF ELECTRICITY II (LAB)

Prerequisites: AEEL1201
Co-requisites: AEEL1102

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This lab provides students with hand-on skills in building and troubleshooting electrical circuits and using electrical equipment such as power supplies. Students also develop competency in using measurement devices such as digital multi-meters. Examples of lab topics include resistors, color codes, power ratings, an introduction to Multisim software, series DC circuits, parallel DC circuits, and series parallel DC circuits. Through experimentation, simulation, and group work, students are provided with hands-on experience to put theoretical concepts into practice.

AEEL2201 ELECTRONIC FABRICATION PRACTICES

Prerequisites: AEEL1102, AEEL1202

This course provides a practical introduction to electrical and electronic fabrication techniques. It also includes a comprehensive safety education component, including basic first aid, hazardous materials, and safety regulations. Besides learning to use basic hand tools and soldering techniques, students also learn about safety, oral and written communications, teamwork, problem solving, and troubleshooting. Through the practical fabrication of electronic projects using PCBs and other supporting components, students are given hands-on experience with hand and power tools in an electronic fabrication lab/ workshop environment.

Course Descriptions

AEEP2102 POWER SYSTEMS I
Prerequisites: AEEP2111
An electric power system is a network of electrical components used to generate, transmit and distribute electric power. Electrical power systems are also at the heart of development of a sustainable energy supply, enabling renewable energy generation. This course familiarizes students with basic elements of power systems. The course also covers energy sources, basics of AC electrical power (real, reactive, and apparent power), voltage regulation, transmission line modelling, per-unit system fault analysis, and load flow analysis using numerical methods. Through a variety of lectures, assignments, and group discussions, students acquire the necessary knowledge of power system elements.

AEEP2103 FACILITIES & ELECTRICAL SYSTEMS
Prerequisites: AEEP2102
Electrical power systems engineers, technologists and technicians need significant knowledge of electrical systems design parameters. This course explores protection devices types and their performance curves, cable systems analysis, design of branch circuits for static and motor loads, panel schedules, load balancing, motor control center, and earthing practices. Through a variety of lectures, assignments, and group discussions, students acquire the necessary knowledge of electrical systems design parameters.

AEEP2111 ELECTRICAL MACHINES
Prerequisites: AEEL1102
This course covers the basics of electrical machines and their applications. The course begins with a review of the electromechanical fundamentals of electrical machines and progresses to the operation and application of the major types of DC and AC motors, transformers, and generators in industry.

AEEP2112 ELECTRICAL PRACTICES
Prerequisites: AEEP2111
Understanding of safe working practice, reading elementary circuits diagram and schematics, skills of installation, testing and troubleshooting are essential for electrical industrial, commercial, and residential installation. This course provides a thorough understanding and safe using of electrical hand tools, electrical measuring and troubleshooting instruments, wires, and cable color code identification and insulation. It introduces motor installation, motor protection, motor starter installation, motor testing and troubleshooting, Arc flash, hazardous area classification and IEC & NEMA type enclosure. The course is delivered through lectures, related and selected videos, case studies, assignments, class exercises, and brain storming.

AEEP2113 HV EQUIPMENT TESTING & MAINTENANCE
Prerequisites: AEEP2111
This course provides a thorough understanding and usage of electrical measuring, testing, and maintenance tools for high voltage power (HV) equipment for regular and special maintenance. The course focuses on learning maintenance and test theory and methodology for HV power transformer, power circuit breakers, high voltage cable and rotating machines. Course delivery includes lectures, related and selected videos, group-based case studies, assignments, class exercises and brainstorming.

AEEP2122 MOTOR CONTROLS & DRIVES
Prerequisites: AEEP2111, AETN2101
Electric motors used to drive industrial machines must be started, stopped, and protected in various different ways depending on the application and the type of motor used, and their speed must also be controlled. This course introduces students to motor control principles and fundamental concepts of motor drives. Students learn to identify electrical symbols (IEC and ANSI standards) and design basic to complex motor control systems. In addition, students learn to install, configure, operate, and troubleshoot soft starters and alternating current (AC) /DC drives. Through lectures, assignments, and group discussions, students acquire the necessary theoretical knowledge in this area.

AEEP2202 POWER SYSTEMS I (LAB)
Prerequisites: AEEP2211
Co-requisites: AEEP2102
An electric power system is a network of electrical components used for generation, transmission, and distribution electric power. Electrical power systems are also at the heart of development of a sustainable energy supply, enabling renewable energy generation. This is a hands-on lab course to familiarize students with basic elements of power systems. The course supports student learning through hardware and software simulations relating to energy sources, basics of AC electrical power, multi-phase power, voltage regulation, transmission line modelling, per-unit system fault analysis, and load flow analysis using numerical methods. The course is delivered through a set of lab exercises.

AEEP2203 FACILITIES & ELECTRICAL SYSTEMS (LAB)
Prerequisites: AEEP2202
Co-requisites: AEEP2103
This is a hands-on lab course that supports learning through design exercises relating to electrical power systems. Specifically, this course covers design of electrical branch circuits for static and motor loads, protection devices, wiring systems, panel schedules, load balancing. Through a variety of labs and group discussions, students acquire the necessary knowledge of power system design parameters.

AEEP2211 ELECTRICAL MACHINES (LAB)
Prerequisites: AEEL1202
Co-requisites: AEEP2111
Electrical machines play an important role in many industrial applications such as power systems, manufacturing factories, power plants, electrical vehicles, and home appliances. This course comprises a set of laboratory exercises to give the students hands-on experience with regards to electrical machines. Laboratory exercises allow students to become familiar with the construction, operation, troubleshooting, equivalent circuits, and performance of major electrical machines used in industry. This practical experience is important in preparing students for actual work in industry or elsewhere where their hand-on skills would be applied.

Course Descriptions

AEEP2212 ELECTRICAL PRACTICES (LAB)

Prerequisites: AEEP2211
Co-requisites: AEEP2112
In this course students are provided with a wide range of practical hands-on skills for low voltage (LV) electrical installations for industry, commercial building and residential homes. The course covers motor control relay installation, motor control center (MCC) installation, MCC disassembly, MCC trouble- shooting, motor dismantling, commutator, brush rigging, slipring inspection, motor stator (field) and rotor (armature) field winding identification, maintenance and troubleshooting of motor windings. Through installation, inspection, testing and troubleshooting students learn to use hands-on experience to put theoretical concepts into practice. The course is delivered through a number of labs that are based on the use of hand tools & test equipment like: digital multimeters, control relays, protection and overload units, growler, and megger.

AEEP2213 HV EQUIPMENT TESTING & MAINTENANCE (LAB)

Prerequisites: AEEP2211
Co-requisites: AEEP2113
This lab-based course provides a wide range of hands-on practical skills relevant to testing and maintenance of high voltage (HV) equipment. For testing and maintenance, the course focuses on power transformer, transformer insulating oil, power cables, Switchgear, and circuit breaker, disconnect switch and ground switch, insulator, and generator and motor. Through a series of labs students learn the usage of test equipment including digital multimeters, megger, oil tester, thermal scanner, and circuit breaker time travel tester. The safety of personnel is continually stressed throughout this course.

AEEP2222 MOTOR CONTROLS & DRIVES (LAB)

Prerequisites: AEEP2211, AETN2201
Co-requisites: AEEP2122
This course aims to provide students with practical skills needed to undertake development, installation, configuration, operation, and troubleshooting of industrial motor controls circuits and drives safely and efficiently. Emphasis is also placed on the development of useful practical skills in interpreting and drawing of diagram circuits. Through a set of hands-on lab exercises, students acquire the necessary practical skills to identify electrical symbols (IEC and ANSI standards) and design basic to complex motor control systems. In addition, students learn practical skills to install, configure, operate, and troubleshoot soft starters, DC drives, and alternating current (AC) drives.

AEEP2301 APPLIED PROGRAMMING

Prerequisites: AEEL1101, MATH1020 OR AMPII Score of 85%
This course introduces students to the C/C++ programming language for solving mathematical and scientific problems and teaches them how to design, write, and implement programs. Topics covered include structured programming concepts, data types, decision statements, loop and iteration procedures, pointers, Input/output procedures, and files.

AEEP3000 WORK PLACEMENT

Prerequisites: Min 85 Credits
This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering - Electrical Power & Renewable Energy. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on-the-job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEEP3101 INTRODUCTION TO EMBEDDED SYSTEMS

Prerequisites: AEEP2301
Embedded computing systems are essential to the operation of electronic devices and systems across a wide range of industries. They consist of both computer hardware and software components, which combined are designed to perform a specific task within a larger mechanical or electrical system. This course introduces students to the principles and practice of micro- controller systems engineering. The content includes configuration, programming, and interface of MSP432 microcontroller with external hardware using assembly and C programming language. The course focuses on the Texas Instruments MSP432 microcontroller. Through lectures and presentations, students learn the principles of operation of microprocessors and micro- controllers.

AEEP3102 POWER ELECTRONICS

Prerequisites: AEEP2122, AETN2101
Power electronics has a broad scope and a large number of electrically powered devices, and renewable energy systems have close connection with the field of power electronics. This course introduces students to the principles of modern power electronics and its applications. It includes power electronics circuits, power semiconductor devices, and converter topologies. The student learns the analysis and design techniques for different converters topologies that include AC-DC converters, DC-DC converters, DC-AC converters and AC-AC converters. Through lectures, students perform complex theoretical analysis of different power electronics converter architectures and its applications.

AEEP3111 POWER SYSTEMS II

Prerequisites: AEEP2102
This course provides an in depth theoretical and hands on approach to gas insulated substation design (GIS), theory and application of modern power systems protection schemes as applied to power networks. In this course, primary relay functions are investigated, as are characteristics of the systems abnormalities that can trigger a response from the protection system. It provides students with knowledge necessary to design GIS and address stability and control of power networks. Through lectures and presentations, students understand the importance of the variety of techniques used to properly protect power systems to ensure continuity of supply, minimize damage to expensive power systems equipment, and ensure the safety of the personnel.

AEEP3112 CONTROL SYSTEMS DESIGN

Prerequisites: AEEP3121
The control theory of electrical and mechanical system is important for industrial technology which is considered the basic science for robotics and automation. This course introduces important concepts of the analysis and design of control systems. Laplace transformation is introduced. Modelling of control systems are detailed using appropriate examples. Response analyses, root locus design, and frequency-response method are covered in this course in addition to state-space representation. Matlab and Simulink are used for the analysis and design. This course is taught through a variety of lectures and a co-requisite lab course using Matlab and practical equipment.

Course Descriptions

AEEP3121 ADVANCED ENGINEERING MATHEMATICS & APPLICATIONS

Prerequisites: MATH2010

Electrical engineering depends largely on signals and complex circuit analysis using advanced mathematical techniques. In this course, students review techniques of differential equations, first order and second order; integral combinations; growth and decay problems; the analysis and solution of source free RL and RC circuits; driven RL and RC circuits using differential integral calculus; sinusoidal analysis; the concept of phasors; and steady state response. This course also deals with waveform analysis and synthesis, time domain analysis, solution of differential equations using Laplace transforms, application of Laplace transforms to solve electric circuits, and derivation of transfer functions. In addition, this course includes Probability and Statistics concepts and its applications. Through lectures and exercises, students use advanced math techniques to analyze electrical signals and circuits.

AEEP3122 RENEWABLE ENERGY CONVERSION I

Prerequisites: AECH2112

Renewable energy is expected to provide a central solution to our need for sustainable fuels. An understanding of renewable energy systems selection, installation, operation, and maintenance are essential for electrical engineers. In this course, students learn about solar radiation principles and measurement, PV Modules and arrays, energy storage, PV systems loads, charge controllers, maximum power point tracking, inverters, balance of systems components, photovoltaic system components and sizing, the design of a standalone PV system, wind energy system components and sizing, and the design of a stand-alone wind energy system. Students use software such as MATLAB/Simulink and PVsys in their course projects. The course is delivered through a variety of lectures, active learning activities and exercises, and projects.

AEEP3132 DISCRETE MATHEMATICS

Discrete math is essential to electrical engineering disciplines as it introduces students to the theoretical mathematical framework underlying key concepts in computing and programming. It is also intended to familiarize students with the nature of mathematical reasoning, deductive logic and proofs. Through lectures and exercises, students utilize number theory, sets, functions and sequences, relations, recurrence relations, counting techniques, logic and techniques of proof, graphs, and algorithms. This course prepares a student for further study in electrical engineering.

AEEP3201 INTRODUCTION TO EMBEDDED SYSTEMS (LAB)

Prerequisites: AEEP2301

Co-requisites: AEEP3101

Embedded computing systems are essential to the operation of electronic devices and systems across a wide range of industries. When developing an embedded system, one of the options is to base the computational hardware around a microcontroller unit (MCU) rather than a microprocessor unit (MPU). This course enables students to perform a number of hands-on lab exercises to improve their learning of microcontroller development environment, design of a microcontroller-based embedded systems, interfacing from both hardware and software perspectives and including various applications. Through lab work, students learn the principles of operation of microcontrollers and use common industrial controllers and dataloggers.

AEEP3202 POWER ELECTRONICS (LAB)

Prerequisites: AEEP2222, AETN2201

Co-requisites: AEEP3102

The power electronics lab gives students practical exposure and further emphasize on the theoretical concepts of various power electronics converters covered in power electronics course. It allows students to build and test basic power electronics converters, measure key parameters, calculate efficiency and losses for each converter topology. The lab component focuses on power electronics converter circuits such as DC-DC converters, AC-DC converter, AC-AC converter and AC-DC converter. Students learn about each converter, then simulate each of their behaviors using bread board and suitable software such as MATLAB/Simulink. In addition, students build example circuits using a bread board or Vero board. In a mini project component, students design, test, and build a DC-DC or AC-DC converter circuit.

AEEP3211 POWER SYSTEMS II (LAB)

Prerequisites: AEEP2202

Co-requisites: AEEP3111

This lab further emphasizes on the theoretical concepts covered in the Power Systems II lectures. Safety and hazards in power transmission and distribution networks are elaborated in detail; like the dangers of arch flash and its detailed analysis is covered in the first two lab. It allows students to design and simulate via ETAP commercial software a reliable power transmission and distribution system. The lab focuses on design and correct sizing of power systems protection devices, protective devices coordination, and design of protective relaying systems. In the mini project component, students have a choice of either designing a section of power network transmission and distribution system, with emphasis on protection and coordination or design a complete gas insulated substation (GIS). Students work on their allocated project during the labs and demonstrate their work at the end of the semester.

AEEP3212 CONTROL SYSTEMS DESIGN (LAB)

Prerequisites: AEEP3121

Co-requisites: AEEP3112

It is desirable that most engineers and scientists are familiar with theory and practice of automatic control. In this lab course, students design p controller, PI and PID controllers, simulate it using MATLAB/Simulink, and deploy the controller to embedded hardware such as Arduino Microcontroller. Also, students perform different experiments including: Proportional control of DC motor, Control system modelling, system response, controller design using root locus, system analysis and design using Frequency-Response, PID control of DC motor. Students use software/tools such as MATLAB/Simulink in the lab along with the lab hardware and software tools. This course is delivered through a number of hands-on practical lab activities, discussion, and projects.

AEEP3222 RENEWABLE ENERGY CONVERSION I (LAB)

Prerequisites: AECH2112

Co-requisites: AEEP3122

Renewable energy is a central solution to our needs for sustainable fuel. An understanding of the selection, installation, operation, and maintenance of renewable energy systems is essential for electrical engineers. In this lab-based course, students perform different labs to gain hands-on skills and knowledge related to renewable energy conversion. They learn about lab familiarization and safety, recording the characteristics of solar modules, investigating responses to partial shading, testing a PV system in direct mode (No battery), testing a stand-alone PV system with battery storage, finding faults in solar cells or PV modules, and investigating maximum power point tracking and wind energy system operations and performance. Through hands-on activities, discussion, and projects, students also learn about lab hardware and software tools such as MATLAB/Simulink and Posy's.

Course Descriptions

AEEP3312 TECHNOLOGY CAPSTONE PROJECT II
Prerequisites: AEEP3321
The capstone project enables the student completing an Advanced Diploma in the Electrical Power and Renewable Energy Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEEP3321 TECHNOLOGY CAPSTONE PROJECT I
Prerequisites: Min 71 Credits
The capstone project enables the student completing an Advanced Diploma in the Electrical Power and Renewable Energy Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEEP4100 PROJECT MANAGEMENT
Co-requisites: AEEP4301 OR AEAC4311
It is necessary that engineers use proper management systems to execute required tasks and duties. This course provides a systematic and thorough introduction to all aspects of project management. The course underlines the importance of understanding the relation between projects and the strategic goals of an organization. Through presentations and lectures, students implement proper management styles to successfully manage projects from start to finish. The course emphasizes that project management is a professional discipline with its own tools, body of knowledge, and skills.

AEEP4111 RENEWABLE ENERGY CONVERSION II
Prerequisites: AEEP3122
This course aims to provide advanced knowledge about renewable energy sources, focusing on photovoltaic and wind energy systems design, simulation, and installation. Students learn how to integrate renewable energy systems and how to connect photovoltaic and wind energy systems to the grid using required standards and codes imposed by utility. Students also learn how to design a grid-connected PV and wind system and gain knowledge of battery backups for grid-connected systems, system performance monitoring, economic considerations, and the impact of renewable energy systems on the grid. Students use software such as MATLAB/Simulink and PVsys. These course concepts are delivered through lectures, active learning activities and exercises, and projects.

AEEP4112 ENERGY EFFICIENCY & STORAGE
Prerequisites: AEEP4111
In this course, students evaluate and compare different efficient technologies in commercial and residential sectors and compare energy storage systems. The following topics are be studied: energy efficient technologies in commercial and residential sectors, energy storage technologies, fuel cells, flywheels, supercapacitor, thermal storage, compressed air, hydroelectric pumping, conventional batteries - lead acid, nickel-cadmium batteries, lithium batteries, and future of storage. Students are expected to use software/tool such as MATLAB/Simulink, PVsys in their course projects. The delivery of the course includes lectures, active learning activities and exercises, and projects.

AEEP4122 SMART GRIDS
Prerequisites: AEEP3102, AEEP3202, AEEP3111, AEEP3211, AEEP3122, AEEP3222, AEEP3101, AEEP3201
The electric grid is currently drastically transformed to the Smart Grids. The Smart Grids technology allows two-way communications between the electric utility and its customers, and the sensing along the transmission lines. The course is delivered through a set of lectures and includes a hands-on assignment component aligned with the theoretical upgrades introduced in the course in the form of term projects. Students use software/ tool (Python, C/C++, MATLAB/Simulink, eQuest, Energy+, GridLab-D, NetSim, etc.) on the project. Students select their project topic related to the Smart Grids and work in a group of 2-3 students to complete the term project/assignment.

AEEP4211 RENEWABLE ENERGY CONVERSION II (LAB)
Prerequisites: AEEP3222
Co-requisites: AEEP4111
Renewable energy is a central solution to our needs for a sustainable fuel. In this lab course, students gain deep understanding and hands-on skills related to renewable energy conversion. Different experiments are conducted to enhance student learning. These experiments include: lab familiarization and safety, recording the characteristics of solar modules, investigating response to partial shading, testing a PV system in direct mode (no battery, testing a standalone PV system with battery storage, faults in solar cells or PV modules, investigating maximum power point tracking, wind energy system operation and performance. Students learn usage of software/tools such as MATLAB/Simulink, PVsys in the lab along with the lab hardware and software tools. The delivery of the is through hands-on activities, discussion, and projects.

AEEP4212 ENERGY EFFICIENCY & STORAGE (LAB)
Prerequisites: AEEP4211
Co-requisites: AEEP4112
In this course, students complete labs to develop hands-on skills and knowledge related to energy efficiency and storage. Topics include lab familiarization and safety, energy storage systems with PV, the design and installation of the battery storage unit, the charging and discharging of batteries, characteristics and power curves of the fuel cell, flywheel energy storage, storage unit integration into Smart Grids, the thermal behavior of batteries, and the impact of energy efficient variable frequency drive and LED lights on electrical grids. Through hands-on activities, discussions, and projects in the labs, students learn to use software such as MATLAB/Simulink and lab hardware.

AEEP4301 CAPSTONE PROJECT I
Prerequisites: Min 80 Credits AND AEEP3102, AEEP3202, AEEP3101, AEEP3201, AEEP3111, AEEP3211, AEEP3122, AEEP3222
Co-requisites: AEEP4100
The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

Course Descriptions

AEEP4302 CAPSTONE PROJECT II
Prerequisites: AEEP4301
The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEMA1102 HEALTH & SAFETY IN THE WORKPLACE
This introductory course explores the nature and dimension of workplace health, safety, and environment and focuses on the role played by both the employer and employee in the process. Course topics include health, safety, environment, hazard communication, and safety awareness.

AEMA1113 MATERIALS PRACTICES
Prerequisites: CHEM1010, PHYS1020
This introductory course explores materials properties and charThis introductory course explores materials properties and characterization, emphasizing metallic materials and alloys. Students learn about the essential properties of materials and how they are related to applications and processing. In addition, this course aims to ensure that students understand the importance of using the right material for specific applications based on a material's properties and service conditions.

AEMA1213 MATERIALS PRACTICES (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA1113
This laboratory course explores materials properties and characterization with an emphasis on testing the mechanical properties of metallic materials. Students learn and conduct different types of tests and experiments about important properties of materials. Additionally, students conduct tests related to heat treatment and sample preparation for metallographic analysis. Students learn to identify and handle samples from different metallic materials to conduct different tests and obtain quantitative and qualitative data about the properties tested.

AEMA1303 MACHINE SHOP PRACTICES
Prerequisites: AEMA1102
This introductory course is designed to give students knowledge and understanding of fundamental metal-removal and general machine shop concepts, which forms the basis for further studies in science and technology.

AEMA1312 ENGINEERING GRAPHICS
Prerequisites: AECH1201
Engineering graphics is the predominant means of communicating accurate information within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch to the most advanced 3-D model, each may constitute a legal document. Engineers, in general, need to understand and construct engineering drawings. This course focuses on basic engineering graphic principles and standards to effectively communicate technical graphical design. It also provides the foundation for more advanced engineering graphics concepts. Through practical drawings, lectures, and studio work, the students learn to make a complete drawing of a simple object from scratch..

AEMA2101 WELDING FUNDAMENTALS
This introductory course provides students with basic knowledge in the fundamentals of welding. Topics covered are the fabrication of piping elements and tools and welding technology and processes. Some of the applications include tools to cut metal and non-metallic piping, methods of joining pipes and tubes, oxy-fuel cutting and welding processes, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW/TIG). In addition, the course emphasizes safety rules to prepare students for the applications in the workshop.

AEMA2102 POWER PLANT COMPONENTS
This course aims to develop the basic skills needed to operate and maintain steam generation systems. The course explores steam generator design and construction, components, and operations and maintenance. In addition, other topics like fossil fuel burning systems, pressure systems legislation, codes, standards, and safety systems in steam plants are covered.

AEMA2103 PRINCIPLES OF MAINTENANCE
Prerequisites: AEMA2112, AEMA2131
This course introduces students to the basic principles of maintenance. Students become familiar with industrial safety and the three applied maintenance methodologies: breakdown, preventive, and predictive maintenance of industrial equipment and systems. Students also learn about the various functions of a typical maintenance department and the best practices.

AEMA2112 ROTATING EQUIPMENT MAINTENANCE
This course introduces students to the operation and general maintenance of internal combustion engines, compressors, pumps, gas turbines, gearboxes, fans, and blowers. Students conduct predictive and preventive maintenance tasks typically performed on rotating equipment. The course emphasizes safe work practices.

AEMA2113 HYDRAULICS & PNEUMATICS
Prerequisites: PHYS1020
This is an intermediate course in the design of hydraulic and pneumatic power systems. Throughout the course, students learn about the components of hydraulic and pneumatic systems and conduct tests demonstrating how different components and circuits work. As a project, students make calculations to size, source, and select system components and prepare a schematic diagram.

AEMA2121 MATERIALS & PROCESSES
Prerequisites: AEMA1213
This course is an introduction to materials and processes. Students learn about production, fabrication, and practices used in an industrial environment. In addition, this course gives an overview of non-metallic materials used in engineering applications and industry. Topics such as coating, surfaces, corrosion, and metal forming methods are covered.

AEMA2122 NON-DESTRUCTIVE TESTING
Prerequisites: AEMA2221
This course provides students with the basic knowledge of the principles of welding processes and non-destructive testing methods. The welding processes covered include shield metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), and robotic welding. The course also covers weld quality using nondestructive testing methods such as visual inspection, liquid penetrant, magnetic particles, eddy current, ultra-sonic, and radiography testing. The students also learn about discontinuities and defects related to the welding process.

Course Descriptions

AEMA2131 INDUSTRIAL MAINTENANCE MECHANICS
This course introduces students to the operation and maintenance of mechanical power transmissions. Students learn to disassemble and install components such as bearings and seals while doing visual inspections to determine the cause of component failures before reassembling the transmission. Students also have the opportunity to conduct proper maintenance for power transmission systems and their components.

AEMA2133 WELDING & NON-DESTRUCTIVE TESTING
Prerequisites: AEMA1113
This course provides students with the basic knowledge of the principles of welding processes and non-destructive testing methods. The welding processes covered include shield metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), and robotic welding. The course also covers weld quality using nondestructive testing methods such as visual inspection, liquid penetrant, magnetic particles, eddy current, ultra-sonic, and radiography testing. The students also learn about discontinuities and defects related to the welding process.

AEMA2201 WELDING FUNDAMENTALS (LAB)
Prerequisites: AEMA1303
Co-requisites: AEMA2101
This introductory course allows students to learn hands-on skills and eventually practice the fabrication of piping elements and tools and welding technology and processes. Some of the applications include tools to cut metal and non-metallic piping, methods of joining pipes and tubes, oxy-fuel cutting and welding processes, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW/TIG). In addition, the course emphasizes safety rules in applications in the workshop.

AEMA2202 POWER PLANT COMPONENTS (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2102
The Power Plant Components laboratory course enhances engineering students' understanding and knowledge of basic principles and experimental methods. It highlights the operation of boiler and steam turbines and how to apply those concepts in practice. This course is designed to develop the basic skills needed to operate and maintain steam generation systems. The program deals with steam generator design and construction, components, and operations and maintenance. Other topics include fossil fuel burning systems, pressure systems legislation, codes, standards, and safety systems in steam plants. The course includes experimental objectives, practical applications, theory, equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA2203 PRINCIPLES OF MAINTENANCE (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2103
In this course, students learn about and practice creating work orders, maintenance record keeping, and engaging in hands-on preventive and predictive maintenance tasks. In addition, this course offers practical experience in the maintenance of various mechanical devices.

AEMA2213 HYDRAULICS & PNEUMATICS (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2113
This intermediate course focuses on the design of hydraulic and pneumatic power systems. Throughout the course, students learn how to assemble components, operate hydraulic and pneumatic systems, and conduct tests demonstrating different components and circuits' operation. As lab quizzes, students have to make calculations and answer questions about the operation and behavior of hydraulic and pneumatic systems. They also practice working with schematic diagrams. Most labs are run in rotation during the semester. Some labs might involve calculations done by all students simultaneously.

AEMA2221 MATERIALS & PROCESSES (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2121
This laboratory course deals with materials and processes, emphasizing testing and the effect of different processes on materials. Students learn and conduct different types of testing and experiments about processes such as the manufacturing of plastics. Students use different manufacturing methods for polymers, such as injection moulding, blow moulding, and 3D printing. Additionally, students learn to demonstrate the ability to conduct tests related to surface properties of materials, such as electroplating and corrosion. Students study other manufacturing methods, such as sand casting and gravity die casting. Cold-working manufacturing processes such as metal rolling and bending are also covered.

AEMA2222 NON-DESTRUCTIVE TESTING (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2122
This course introduces students to practical techniques that detect discontinuities in materials without destroying the component. Students learn and practice performing the test, interpreting results, and evaluating different types of discontinuities. In addition, students learn about testing equipment, calibration, and how to use them to access unknown samples and components. Visual testing, liquid penetrant testing, magnetic particle testing, eddy current testing, ultrasound testing, and radiography testing methods and techniques are covered.

AEMA2231 INDUSTRIAL MAINTENANCE MECHANICS (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2131
The Industrial Maintenance Mechanics laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of operation and maintenance of mechanical power transmissions and apply those concepts in practice. This course provides students with an overview of ten different laboratory experiments and their practical applications. Students disassemble and install components such as bearings and seals while doing visual inspection to determine the cause of component failure before reassembling the transmission. The student also conducts proper maintenance for power transmission systems and their components, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

Course Descriptions

AEMA2232 ROTATING EQUIPMENT MAINTENANCE (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2112
Basic knowledge about various Rotating Equipment is required in various areas of their design, operation and maintenance in an industry. The Rotating Equipment Maintenance laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of Rotating Equipment and apply those concepts in practice. This course provides students with an overview of eight different Rotating Equipment laboratory experiments and their practical applications. The course includes experimental objective, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA2233 WELDING & NON-DESTRUCTIVE TESTING (LAB)
Prerequisites: AEMA1102
Co-requisites: AEMA2133
This course provides students with the basic hands-on skills in basic welding techniques. The students practice different welding and welding related techniques such as cutting, pipes joining, oxyfuel cutting, gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW). The course also provides students with hands on skills performing different non-destructive testing methods. The methods covered are visual testing, liquid penetrant testing, magnetic particles testing, eddy current testing, radiographic testing.

AEMA2311 COMPUTER AIDED DESIGN I
Prerequisites: AEMA1312
This is a project-oriented course, which includes application of computer aided drafting (CAD) software in the drawing of mechanical components, assemblies, and systems. CAD software is a tool that enables users to produce engineering drawings more accurately and with greater efficiency. Students learn to interpret, prepare, and create technical drawings and other technical documents which meet engineering standards.

AEMA3000 WORK PLACEMENT
Prerequisites: Min 85 Credits
This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Mechanical Engineering - Maintenance Engineering. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on-the-job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEMA3111 MULTIVARIATE CALCULUS
Prerequisites: MATH2010
This is a course in advanced calculus and statistics. After a brief introduction to selected topics in multivariate calculus, students are introduced to solution techniques in first order ordinary differential equations (with specific applications) and partial differential equations. The course then explores introductory concepts in probability and statistics, leading to some standard results in both discrete and continuous distribution theory.

AEMA3112 APPLIED DIFFERENTIAL EQUATIONS
Prerequisites: MATH2010
This course focuses on the application of mathematics to problems derived from mechanical engineering fundamentals such as fluid mechanics, heat transfer, and other related applications. It also covers the formulation and solution of ordinary and partial differential equations arising in mechanical engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AEMA3121 APPLIED FLUID MECHANICS
Prerequisites: MATH1030, PHYS1020
Fluid mechanics principles are very important to most engineering disciplines because they are required to correctly design systems or solutions. This course helps students understand the theoretical mechanics that govern fluid flow and describes dimensions and units, continuum fluid mechanics, properties of fluids, fluid statics, standard atmosphere, manometry and pressure measurement, and the forces on submerged planes. It also covers flow characteristics (laminar and turbulent flow, steady and unsteady flow, and stream lines), flow analysis (control volume/control system and differential approaches for mass, momentum, and energy conservation), and applications of the conservation equation, energy losses, and Bernoulli equations.

AEMA3142 APPLIED HEAT TRANSFER
Prerequisites: AECH2142
Heat transfer applications and equipment are essential components for building knowledge and skills for engineers. This course builds on students' prior knowledge by providing an overview of advanced heat transfer principles and how they can be applied to solve practical problems in the design of heat transfer systems and a wide variety of engineering problems. Students acquire both quantitative and perceptive capability for dealing with heat transfer problems. Through engineering calculations, applying heat transfer principles, and discussions, students shall be able to analyze different types of heat transfer as well as understand the operation of major heat transfer equipment.

AEMA3221 APPLIED FLUID MECHANICS (LAB)
Prerequisites: AEMA1102 OR AECE1340
Co-requisites: AEMA3121
Basic knowledge about fluid mechanics is required in various areas of water resources engineering such as designing hydraulic structures and turbomachinery. The applied fluid mechanics laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of fluid mechanics and apply those concepts in practice. This course provides students with an overview of six different fluid mechanics laboratory experiments and their practical applications. The course includes experimental objective, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

Course Descriptions

AEMA3232 ADVANCED MANUFACTURING
Co-requisites: AEMA4312
Advanced Manufacturing is a rapidly evolving field that encompasses the use of cutting-edge technologies and processes to design, develop, and manufacture products. The field includes a wide range of technologies such as robotics, automation, artificial intelligence, and the internet of things (IoT). In this course, students can expect to learn about the principles and practices of advanced manufacturing, including the fundamentals of manufacturing processes, materials, and technologies. Students also learn about the latest advances in manufacturing technologies, including 3D printing, advanced machining, sustainable manufacturing and smart machining systems. Upon completing the course, students are well-equipped to apply advanced manufacturing principles and practices to design and develop innovative products and solutions that meet the needs of modern manufacturing industries.

AEMA3242 DESIGNING & PROTOTYPING
Prerequisites: AEMA3311
Co-requisites: AEMA4312
This is an intermediate-level course in the field of manufacturing that focuses on the development of products from concept to final production. Throughout the course, students explore the entire product design process from concept development and ideation to the creation of functional prototypes, through lectures, labs and a final prototyping project. The course also covers the essential prototyping techniques used in the manufacturing industry such as 3D printing, CNC capabilities, waterjet and laser cutting, machining, computer-aided design/manufacturing (CAD/CAM), and other rapid prototyping. Students learn how to use these tools to produce functional prototypes, test product performance and evaluate product design.

AEMA3301 MECHANICS, STATICS & DYNAMICS
Prerequisites: AEMA1102, PHYS1021, MATH1020 OR AMPII Score of 85%
This course is an introductory mechanics course. Students are provided with the opportunity to develop an understanding of several key concepts related to the field, including the analysis of static objects, concepts of force, moment, and mechanical equilibrium, concentrated and distributed forces in various systems such as beams, frames and trusses. The forces on bodies in motion are also explored using the basics of kinetics and kinematics.

AEMA3302 STRENGTH OF MATERIALS
Prerequisites: AEMA3301
This course provides a basis for machine element design and structural analysis with a focus on the deformation of materials under applied loads and associated stress distributions. Students use mathematical calculations and strength of materials theory or basic numerical methods to solve and analyze problems related to the stress and deformation in engineering structures, materials, and mechanical components.

AEMA3311 COMPUTER AIDED DESIGN II
Prerequisites: AEMA2311
This project-oriented course provides students with the opportunity to apply advanced mechanical design and drawing techniques to 3D modelling software. Using SolidWorks software, or other parametric based application, students learn basic part and assembly feature design skills commonly used in mechanical designs. Students also learn how to translate designs to drawings for proposals, manufacturer documentation, and quality control documents.

AEMA3321 TECHNOLOGY CAPSTONE PROJECT I
Co-requisites: COMM3010, RSST3001 OR RSST3002
This course is the capstone project for students completing the Advanced Diploma in the Mechanical Engineering Technology program. Applying the skills and knowledge developed throughout the program, students work in teams to create a project proposal under the guidance of a faculty member but with minimal supervision. The proposal involves the study of a problem, design, or technological application which is implemented in the following academic semester of their program in capstone II.

AEMA3322 MAINTENANCE ENGINEERING
Prerequisites: AEMA2203
This course applies the reliability centered maintenance (RCM) approach to developing a comprehensive maintenance program based on failure mode and effects analysis (FMEA). Students analyze selected industrial equipment in a project and create a comprehensive preventive and predictive maintenance (PPM) program. Students also use a computerized maintenance management system (CMMS) to create a database and generate scheduled work orders. Business and management aspects of maintenance as well as problem solving techniques are discussed.

AEMA3332 TECHNOLOGY CAPSTONE PROJECT II
Prerequisites: AEMA3321
This course enables students completing the advanced Diploma in the Mechanical Engineering Technology program to apply the skills and knowledge developed throughout the program in implementing the project proposal from in Capstone I. Working in teams, under minimal supervision but with the guidance of a faculty member, students carry out a study of a problem, design or technological application and then provide a gap analysis between the project proposal and implementation.

AEMA3333 APPLIED DYNAMICS & KINEMATICS
Prerequisites: AEMA3301
The course covers kinematic and dynamic analysis including graphical and analytical methods for kinematic analysis of space, mechanisms and elementary body motion in space, static and dynamic force analyses of mechanisms, dynamics of reciprocating and rotating machinery, cam and gear mechanisms and specifications.

AEMA4100 PROJECT MANAGEMENT
Prerequisites: AECH2103
Engineering professionals require a proper understanding of management systems tools, knowledge, and skills to execute their duties and tasks. This course provides a systematic and thorough introduction to all aspects of project management. The course underlines the importance of understanding the relation between projects and the strategic goals of an organization. Through presentations and lectures, students are provided the opportunity to implement proper management styles to successfully manage projects from beginning to end.

AEMA4111 APPLIED DIFFERENTIAL EQUATIONS
Prerequisites: MATH2010
This course focuses on the application of mathematics to problems derived from mechanical engineering fundamentals such as fluid mechanics, heat transfer, and other related applications. It also covers the formulation and solution of ordinary and partial differential equations arising in mechanical engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

Course Descriptions

AEMA4121 PIPELINE PROTECTION & MAINTENANCE
Prerequisites: AEMA2222
This course provides students with a background in the operation, inspection, and maintenance of pipelines, including a technical overview behind pipeline components and operation. Pipeline operation is studied to investigate routine maintenance issues. Pipeline construction is discussed to provide knowledge of replacement and repair requirements. Safety management is also discussed as a priority for pipeline operation.

AEMA4122 QUALITY CONTROL
Prerequisites: AEMA3311, RSST3002
Industry depends on precision manufacturing of all its components. This precision is made possible by the expertise of staff who can operate the appropriate measuring tools, and who can evaluate the uncertainty and accuracy of measurements made. With a focus on applications in the oil and gas, and manufacturing industries, this course examines core principles of precision measurements, along with current and emerging measurement technologies.

AEMA4123 PLC
Prerequisites: AEEL1102
Programmable Logic Controllers (PLC) are essential tools for to control electro-mechanical processes in manufacturing operations and act as central processor for all real time decisions. This course introduces students to general concepts, programming techniques, and programming languages for PLCs for digital and analog inputs and outputs, for on/off control, and for proportional control. This course also covers how to develop function block programs and link them to a Human Machine Interface (HMI). The control strategies taught in this course start with basic PID control and progresses to more complex control strategies. Lectures, discussions, and group work teach students the basic concepts of PLC programming and control.

AEMA4142 APPLIED HEAT TRANSFER
Prerequisites: AEMA3121 OR AECH2142
Heat transfer applications and equipment are essential components for building knowledge and skills for engineers. This course builds on students' prior knowledge by providing an overview of advanced heat transfer principles and how they can be applied to solve practical problems in the design of heat transfer systems and a wide variety of engineering problems. Students acquire both quantitative and perceptive capability for dealing with heat transfer problems. Through presentations, course work, and discussions, students are provided the opportunity to analyze different types of heat transfer as well as understand the operation of major heat transfer equipment.

AEMA4223 PLC (LAB)
Co-requisites: AEMA4123
Programmable Logic Controllers (PLC) are essential tools for to control electro-mechanical processes in manufacturing operations and act as central processor for all real time decisions. This course applies and demonstrates the general concepts, programming techniques and programming languages for Programmable Logic Controllers. The student develops and test programs using function block programming. The course starts with basic Proportional Integral Derivative control and progress to more complex strategies. This course is be delivered through active hands-on lab sessions.

AEMA4301 CAPSTONE PROJECT I
Prerequisites: RSST3001 OR RSST3002
Co-requisites: AEMA4100, AEMA4311, COMM3010
This course is the capstone project for students completing a degree in the Mechanical Engineering. Applying the skills and knowledge developed throughout the program, students work individually or in teams with minimal supervision but under the guidance of a faculty member. Students study a problem, design, or technological application and fully document and present their findings. Students also learn how to manage their projects and how to conduct research for their literature review. The final product for this course is a proposal for a project to be completed in Capstone II.

AEMA4302 CAPSTONE PROJECT II
Prerequisites: AEMA4301
This course enables students completing a degree in the Mechanical Engineering to apply the skills and knowledge developed throughout the program. Working individually or in teams, under minimal supervision but with the guidance of a faculty member, students study a problem, design, or technological application and fully document and present their findings.

AEMA4311 MACHINE DESIGN
Prerequisites: AEMA3302
In this project-oriented course, students apply analytical and numerical methods to design mechanical components based on various design criteria. Students examine the designing of mechanical machinery for functionality and safety. Using problem-solving techniques and the principles of mechanics and material strength, students develop the ability to design new machines and modify existing equipment to meet new objectives.

AEMA4312 APPLIED CNC & CAM
Prerequisites: AEMA2221, AEMA3311
This is an advanced course in mechanical design and manufacturing that introduces students to an automated machining process that integrates computer-aided manufacturing software (CAM) and computer numerical control (CNC) to design and manufacture products. Students are responsible for the initial design, drafting, program generation, machine and tool set up, and machining of a project part. Students also analyze and specify requirements to optimize product manufacturing.

AEMA4332 FACILITIES MAINTENANCE MANAGEMENT
Prerequisites: AECH3302, AEMA2311, AEMA3322
This course applies previously learned concepts in preventive and predictive maintenance, thermodynamics, and fluid mechanics to the design, operation, and maintenance of building systems.

AEMA4342 COMPUTER-INTEGRATED MANUFACTURING (CIM)
Prerequisites: AEMA4312
Co-requisites: AEAC4102
Computer Integrated Manufacturing (CIM) is the study of manufacturing planning, integration, and implementation of automation to improve productivity, quality, safety, and efficiency. CIM applies a holistic approach by using integrated computers to automate and control the information processing activities in a manufacturing process, from product development to material management, production, warehousing, delivering to, and supporting the customers. A CIM system uses sub systems such as Computer Aided Design (CAD) and Enterprise Resource Planning (ERP) which are discussed in this course as well as the three key challenges in CIM: supply chain, data integrity and process control. Students learn the fundamentals through analyzing, designing, and building manufacturing systems.

Course Descriptions

AEMR1000 INTRODUCTION TO MARINE ENGINEERING
This course enables students to understand the profession of marine engineering, potential employment, and the difference between naval architecture and other related disciplines. It also presents the professional ladder of marine engineers. The course covers high-level information on the ship's machinery from propulsion and steering to deck machinery and electrical equipment with an emphasis on correct and safe procedures. Cost-effective operation of ships, fuels, and alternative fuels used on ships are also covered in this course.

AEMR1102 HEATH & SAFETY IN MARINE ENGINEERING
This is an introductory course that explores the nature and dimensions of workplace health, safety, and environment, and the role played by both the employer and the employee in the process. Course topics include health, safety, and environment, hazard communication, and safety awareness. The course also utilizes the MPP for safety audit. The course is supplemented by a specialized Short Course by the DNV Maritime Academy on adapting ship Occupational Health & Safety (OH&S) management systems, following the latest ISO standards, as well as relevant Codes and Conventions.

AEMR3000 WORK PLACEMENT/SEA TIME
Prerequisites: Min 85 Credits
This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Marine Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant work environment. Students learn, develop, and demonstrate high standards of behavior and performance normally expected in the workplace. The practical applications of the on-the-job training promote students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on skills demonstrated in the workplace.

AEMR3105 MARITIME LAWS & STANDARDS
Prerequisites: AEMR3302
It is vital for marine engineers to develop an understanding of the wide range of concepts of law that are crucial for those in the maritime industry. This course intends to build knowledge of maritime law and how it impacts the work of marine engineers. Through lecture notes and convention copies, students gain a wider knowledge of the implications of the international maritime laws and regulations in the profession.

AEMR3111 SHIP PROPULSION
Prerequisites: AEMA3121
Co-requisites: AEMR3112
Marine engineers should have the knowledge and skills to specify preliminary design parameters for ship's propulsors. This course trains students in the selection and evaluation of commercial and naval ship power and propulsion systems. It covers the analysis of propulsors, prime mover thermodynamic cycles, propeller-engine matching, propeller selection, waterjet analysis, and reviews alternative propulsors such as battery and fuel cells systems. Through course work, lectures, assignments, students are able to select the appropriate propulsors for ships.

AEMR3112 SHIP PROPULSION (LAB)
Co-requisites: AEMR3111
Marine engineers should have the knowledge and skills to specify preliminary design parameters for ship's propulsors. This course trains students on performing thermodynamics cycles using simulation. It covers Rankine cycles, refrigeration cycles, combined cycles, and combustion cycles. Through lab simulation sessions students shall be able to design the appropriate power train and propulsors for ships utilizing design software.

AEMR3302 STRENGTH OF MATERIALS & SHIP HULL
Prerequisites: AEMA3301
Marine engineers need to have knowledge and understanding of issues pertinent to shipbuilding, ship operating conditions, and strength of ship hulls. The objectives of this course are to: (i) Introduce basic concepts of strength of materials, focusing on the distribution of stresses in structures under different types of applied loads and associated deformations; (ii) Discuss ship hull strength, in particular, introduce main hull elements, strength concepts, design points, forces acting on ship hulls, as well as general hull strength design rules. Through course work, lectures and assignments, students will learn to identify appropriate methods, rules and standards for structural marine design.

AEMR3303 MACHINE ELEMENTS
Prerequisites: AEMR3302
Marine and mechanical engineers should have a fundamental knowledge of the principles pertinent to the design of machine elements and should be able to perform calculations for main machinery components, such as shafts, gears, bearings and bolts. In this course, students (i) review the underlying principles of statics and strength of materials pertinent to engineering machinery component calculations, (ii) analyze calculation results, and (iii) discuss the synthesis of machine elements for designing machinery, with an emphasis on load bearing and power transmission machinery.

AEMR4101 MARINE ENGINES
Prerequisites: AEMR3111
Co-requisites: AEMR4103
Through lecture notes, projects, and presentations, students should have a comprehensive knowledge on the principles of operation and troubleshooting of marine engines. These include the traditional internal combustion engines and their development and improvement. The students should also have knowledge of the principles of operation for the new types of engines utilizing "green" fuels. This course covers the most common types of internal combustion systems as well as the engines modified to suit the new environmentally friendly fuels.

AEMR4103 MARINE ENGINES (LAB)
Co-requisites: AEMR4101
Marine engineers should know the principles of operation for each type of commercially available marine engines for commercial or naval ships. These include the traditional internal combustion engines and the development and improvements on these engines. This course covers the most common types of internal combustion systems as well as the modified engines to suit the new environmentally friendly fuels. Through engine simulation lab, students should have a comprehensive knowledge on the principles of operation, and troubleshooting of marine engines.

Course Descriptions

AEMR4104 MARINE CONTROL SYSTEMS
Prerequisites: AEMR3111, AETN2302
Marine Engineers require an understanding of the control theory in different operating systems inside marine vessels. The course presents the instrumentation and its associated control systems that are found onboard ships. The book covers topics such as measuring instruments and control signals for different parameters; system analysis; process and kinetic control systems; and commercially available equipment. Also covered in the course are correcting units such as actuators and valves; the control systems for boilers, turbines, auxiliary equipment, and flow networks; and control involving computers. Applications of mathematical modelling and design of control systems for various marine operations, motion control, positioning, maneuvering, machinery systems and propulsion systems for ships. Through course work, presentation and simulation, students gain an understanding of the different operating principles of common instrumentation and control systems for marine vessels.

AEMR4106 MARINE HYDRODYNAMICS
Prerequisites: AEMR3302, AEMA3121
Marine engineers shall be able to measure ship resistance and responses due to ship movements in the water, through the application of fluid mechanics (hydrodynamics) in the ship - sea system. This course covers potential theory, forces on bodies in currents, added mass, waves and wave forces, wave energy, ship waves, nonlinear effects, forces on bodies in regular and irregular waves. Through lecture notes, presentations, projects, students gain a comprehensive knowledge on marine hydrodynamics.

AEMR4108 SHIP SYSTEM OPERATION & NAVIGATION SIMULATION
Prerequisites: AEMR4101
Marine engineers should have the knowledge of complete system operations inside ships from the ship management point of view. They should also be able to understand how parameters are displayed in the ship bridge and understand faulty signals and troubleshoot them. This course trains students on full mission operation through bridge simulation.

AEMR4110 MARITIME GREEN OPERATIONS & DECARBONIZATION TECHNOLOGY
Prerequisites: AEMR4101, AECH2112
It is important for marine engineers to understand the need to decarbonize operations in the maritime industry and meet the required future targets of reducing emissions. This course provides students with knowledge of the technology required to ensure future energy transition in maritime industries.

AEMR4112 INTRODUCTION TO MARITIME ECONOMICS & LOGISTICS
Prerequisites: AEMR3302
It is vital for marine engineers to develop an understanding of the wide economic implications of different designs of ships and systems related to marines as well as an introduction to logistics handling. This course delivers the basic methods of engineering economic analysis for different ship systems and designs. It also covers a general knowledge of marine logistics and terms used in shipping logistics. Through lecture notes, students are able to assess different designs based on economic feasibility.

AEMR4114 SAFETY MANAGEMENT
Prerequisites: AEMR1102, AEMR3111
This is a professional course (NEBOSH) which is necessary for marine engineers. In this course, students use industry-recognized standards and methodologies to assess risk, measure its magnitude, and develop plans to minimize and control it. Process safety analysis/risk management is applied. Through the delivery standard of NEBOSH materials and lectures, students are able to analyze different safety aspects and analyze multiple risks.

AEMR4301 CAPSTONE PROJECT I
Prerequisites: AEMR3111, COMM3010
Co-requisites: AEMR4311
Engineering students must demonstrate the knowledge, skills and competencies gained during the previous three years of study in a capstone project. Under the guidance of a faculty member, students work individually or in teams of up to three on a project with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of Capstone Project I, students will have completed a proposal that will be executed in Capstone Project II.

AEMR4302 CAPSTONE PROJECT II
Prerequisites: AEMR4301
This course enables students completing a degree in Marine Engineering to apply the skills and knowledge developed throughout the program. Working individually or in teams, under minimal supervision but with the guidance of a faculty member, students study a problem, design, or technological application and fully document and present their findings.

AEMR4311 SHIP SYSTEMS & EQUIPMENT DESIGN
Prerequisites: AEMR3111
Co-requisites: AEMR4301
Marine engineers need to know the factors that affect the ship design such as buoyancy, stability, materials of construction, and multi ship systems. They should also understand the basic requirements of design and an appreciation for systems engineering principles. This course covers these factors and parameters to enable graduates to preliminary design commercial ships. Through lecture notes, presentations, projects, student gain a comprehensive knowledge on the principles of marine design.

AEPC1203 BASIC INSTRUMENTATION
Prerequisites: AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201
Engineering students need basic instrumentation knowledge to understand how processes and their control work. This introductory course to process instrumentation and control familiarizes students with the tools and equipment used in process automation and control. Students learn basic theory before having hands-on practical experience with the five major measurements and their control. The course includes safety, oral and written communications, teamwork, problem-solving and troubleshooting, and instrumentation drawings. Through coursework and presentations, students understand the concepts of instrumentation, microprocessors, and control logic.

AETN1102 NETWORK FUNDAMENTALS
Co-requisites: AETN1112, AETN1202
Telecommunication and Network engineers, technology engineers, and technicians must understand the basics of networks and network technology before learning about network routing and switching. This course introduces students to the network architectures, models, protocols, and networking elements that connect users, devices, applications, and data through the Internet and across modern computer networks. Through lectures, coursework, and group discussions, students are provided the opportunity to build simple local area networks (LAN), develop IPv4 and IPv6 addressing schemes, and perform basic router and switch configurations.

Course Descriptions

AETN1112 DIGITAL ELECTRONICS
Prerequisites: AEEL1101
Co-requisites: AETN1212
Telecommunications and Network engineers, technology engineers, and technicians need to understand the basics of digital electronics. This course introduces students to the field of digital electronics. Students learn design and diagnosis techniques applicable to digital electronics. The course also teaches microprocessor programming techniques using assemblers and debuggers and provides training in computer interfacing techniques. Through lectures and group work, students learn to identify digital signals and apply logic functions to combinational and synchronous systems.

AETN1202 NETWORK FUNDAMENTALS (LAB)
Co-requisites: AETN1102
Telecommunication and Network engineers, technology engineers, and technicians must understand the basics of networks and network technology before learning about network routing and switching. In this lab, students build, configure, test, and troubleshoot basic communications networks using various simulation and testing tools such as Packet Tracer, Tera Term, Ping, Traceroute, etc. Through lab work, students design, implement, and test IPv4 subnets using VLSM and FLSM addressing schemes. Students also implement, troubleshoot and test IPv6 subnets.

AETN1212 DIGITAL ELECTRONICS (LAB)
Prerequisites: AEEL1201
Co-requisites: AETN1112
This course introduces students to the field of digital electronics and their practical applications by having them design and apply diagnosis techniques to digital electronics. This course also teaches microprocessor programming techniques using assemblers and debuggers and provides training to the students in computer interfacing techniques. Through practical lab work, students are taught the principles of combinational and synchronous logic together with microprocessors operations.

AETN2101 ANALOG ELECTRONICS
Prerequisites: AEEL1102
This course explores the description, operation, and application of simple electronic components with an emphasis on semiconductor theory. Analysis techniques involving diode equivalent circuits are introduced and expanded to transistor DC biasing and AC analysis of amplifier systems. The study of operational amplifiers with emphasis on circuit analysis and applications is also covered. The above areas, along with analogue-to-digital and digital-to-analogue conversion are developed with a view to interfacing sensors with computer equipment. Through lectures and presentations, students learn the principles of analog electronic devices, analog to digital, and digital to analog conversion techniques.

AETN2103 MICROPROCESSORS & MICROCONTROLLERS
Prerequisites: AETN2121
Co-requisites: AETN2203
The world of telecommunications and networking relies heavily on the use of devices built with microprocessors and micro-controllers. This course introduces students to the principles and practice of microcontroller systems engineering. The content covers the configuration, programming, and interfacing of microcontrollers with external hardware using assembly and higher-level programming languages. Through lectures and presentations, students learn the principles of microprocessor and microcontroller operation.

AETN2111 NETWORK SWITCHING & ROUTING
Prerequisites: AETN1102
Co-requisites: AETN2211
Switching and routing is at the core of modern complex computer networks. This course focuses on switching and routing technologies that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students learn about key switching and routing concepts as well as basic LAN security threats. Through lectures and presentations, students are provided with the opportunity to learn about the operation of switching and routing within and between LANs and WLANs.

AETN2112 ENTERPRISE NETWORKS
Prerequisites: AETN2111
Co-requisites: AETN2212
To design networks, engineers need to understand the architecture of networks. This course examines the technologies and considerations related to designing, operating, and troubleshooting scalable enterprise networks, including wide area network (WAN) technologies & quality of service (QoS) mechanisms. Students also gain skills in troubleshooting enterprise networks. Through lectures and presentations, students gain an understanding of the network architecture and protocols that are used with WAN access technologies. After completing this course and the associated lab, students are eligible to attend CISCO's CCNA Certification Exam.

AETN2121 ANALOG & DIGITAL COMMUNICATION
Prerequisites: AEEL1102, MATH1020 OR AMPII Score of 85%
Knowledge of analog and digital modulation and communication techniques are essential for telecommunications engineers, technology engineers, and technicians. This course provides a thorough introduction of the basic principles and techniques used in analog and digital communication. The course introduces analog and digital modulation techniques, communication transmitter and receiver design, baseband and bandpass communication techniques, line coding techniques, and noise analysis. Through lectures and presentations, students can understand and evaluate the performance of various communication techniques.

AETN2122 WIRELESS COMMUNICATION SYSTEMS
Prerequisites: AETN2121
Telecommunications engineers, technology engineers, and technicians need to have a solid understanding of various communication systems and their development. This course provides a basic understanding of modern communications systems. Students gain an appreciation of multiple access techniques, wireless transmission, cellular networks, 3G, 4G, and 5G air interface technologies, satellite communications, and radars. Through lectures and demonstrations, student gain an under- standing of a variety of modern wireless communication systems..

AETN2201 ANALOG ELECTRONICS (LAB)
Prerequisites: AEEL1202
Co-requisites: AETN2101
This is a hands-on lab and project-based course that allows students to build electronic circuits to help them better understand the different behaviors and functions of analog electronics. The lab component focuses on silicon-based components, transistor amplifiers, operational amplifiers, and instrumentation amplifiers. Students first learn the theory of each component then simulate each of their behaviors using Multisim Live. Students also build example circuits using components that are breadboarded on the NI protoboard, interacting with their circuits using NI ELVIS III instruments. In the project component of this course, students design, test, and build a voltage level indicator or a DC power supply circuit.

Course Descriptions

AETN2203 MICROPROCESSORS & MICROCONTROLLERS (LAB)

Prerequisites: AETN2221
Co-requisites: AETN2103
The world of telecommunications and networking relies very heavily on the use of devices built with microprocessors and microcontrollers. This course enables students to perform a number of hands on lab exercises to improve their learning of microprocessor and microcontroller development environment, design of a microcontroller-based systems, interfacing from both hardware and software perspectives and including various applications. Through lab work, students learn the principles of operation of microcontrollers and use common industrial controllers and dataloggers.

AETN2211 NETWORK SWITCHING & ROUTING (LAB)

Prerequisites: AETN1202
Co-requisites: AETN2111
Switching and routing knowledge is essential to understanding how modern complex networks operate. In this lab, students create, configure, test, and troubleshoot VLANs, 802.1Q trunks, inter-VLAN routing, EtherChannel between the switches, DHCPv4 servers and relays, and IPv4 and IPv6 static and default routes. In addition, students learn to configure a wireless router and connect it to a PC. Through lab work, students also learn the operation of switching and routing within and between LANs and WLANs.

AETN2212 ENTERPRISE NETWORKS (LAB)

Prerequisites: AETN2211
Co-requisites: AETN2112
To design networks, telecommunication and network engineers and technology engineers need to understand the architecture of networks. In this lab, students build, configure, test, analyze, and troubleshoot single-area OSPFv2, extended access control lists. They also analyze DNS traffic. Through lab work, students investigate DNS traffic and WAN technologies and configure different protocols and network architectures. After completing this lab and the associated course, students are eligible to attend CISCO's CCNA Certification Exam.

AETN2221 ANALOG & DIGITAL COMMUNICATION (LAB)

Prerequisites: AEEL1202
Co-requisites: AETN2121
Knowledge of analog and digital modulation and communication techniques are essential for telecommunications engineers, technology engineers, and technicians. This course covers a broad range of introductory analog and digital telecommunications topics through a series of hands-on laboratory experiments. The lab experiments are designed to allows students to build, measure, experiment with, and demonstrate the theoretical concepts introduced in AETN2121. Through this lab work, students are provided the opportunity to understand and evaluate the performance of various communication techniques.

AETN2222 WIRELESS COMMUNICATION SYSTEMS (LAB)

Prerequisites: AETN2221
Co-requisites: AETN2122
This lab-oriented course is comprised of a series of hands-on laboratory exercises through which students explore various wireless communication system topics using software defined radio (NI USRP and LabVIEW software tools). Using these laboratory exercises, students implement single carrier and multicarrier communication systems and investigate real-world communication signals.

AETN2302 APPLIED PROGRAMMING I

Prerequisites: MATH1020 OR AMPII Score of 85%
Programming is an essential skill in analyzing, designing, and implementing communication protocols and systems. This course is an introduction to the Python programming language for students without prior programming experience. The course covers computer-programming concepts like basic operator, numeral systems, Boolean logic, data types, containers, functions, conditions, loops, as well as Python programming language syntax, semantics, and the runtime environment. Students learn to accomplish basic Python coding tasks and understand the fundamental notations and techniques used in object-oriented programming. Upon successful completion of this course, students can take the industrial certification exam, Certified Entry-Level Python Programmer (PCEP).

AETN3101 CYBER SECURITY

Prerequisites: AETN2112
Co-requisites: AETN3201
Because networks facilitate collaboration and sharing of data and resources within and across institutions, cyber security must be robust, and IT professionals must understand how this security works. This experience-oriented course helps students acquire the skills necessary to obtain an entry-level network security position. It provides both a theoretically rich and hands-on approach to cyber security design, management, and support. Through lectures and presentations, students learn a variety of techniques used to properly secure a network.

AETN3102 ANTENNAS & WAVE PROPAGATION

Prerequisites: AETN3111
Co-requisites: AETN3202
Antennas are a critical part of wireless communication systems. This course provides a comprehensive study of antenna fundamentals, including types of antenna and antenna radiation characteristics. It introduces the basics of radiating elements and the effect of the propagation of radio waves. The course presents fundamental theory together with techniques for the practical design, measurement, and application of a wide variety of antennas. Propagation topics related to numerous communication systems are also covered. Through lectures and presentations, students explore and calculate antenna parameters using principles of wave propagation with a goal to selecting the most appropriate antenna for a given application.

AETN3111 APPLIED ELECTROMAGNETICS

Prerequisites: MATH2010
To design and deploy proper communications channels, tele-communications and technology engineers must understand the principles of electromagnetics in wired and wireless applications. This course covers the basics of static electric and magnetic fields and applications. Topics covered include Maxwell's equations, propagation and reflection of plane waves, transmission lines, guided waves and microwaves, and radiation and antennas with applications in wired and wireless communications systems. Through presentations and lectures, students investigate and calculate different wave parameters in various communications media.

Course Descriptions

AETN3112 NETWORK MANAGEMENT
Prerequisites: AETN3122
Once a network is designed and implemented, it is essential to monitor, manage and troubleshoot its operation. This introductory course explains the different technologies used in network management and their relation to each other. It also introduces both theoretical and practical aspects of computer network management, including architectures, protocols, and standards. The course provides a solid technical foundation for students to successfully navigate network management topics and apply those concepts to specific situations. An accessible overview of network management also covers the services running over those networks. Through lectures, students are introduced to network management philosophies and the tools available to manage and monitor networks.

AETN3122 TELECOMMUNICATIONS NETWORKS
Prerequisites: AETN2112
Telecommunications and technology engineers need to understand current telecommunication network and industry trends. This course provides an overview of the telecom networks that provide broadband multimedia services. Students learn about market and technology drivers of the evolution of telecom networks, from the early days of analogue voice networks to today's optical packet networks. Through lectures and presentations, the course emphasizes current and emerging telecom network technologies such as IP telephony, fifth generation (5G) mobile networks, internet protocol television (IPTV), internet and data centers, and multiprotocol label switching (MPLS) applications such as Layer 2 and Layer 3 virtual private networks (L2VPNs and L3VPNs).

AETN3201 CYBER SECURITY (LAB)
Prerequisites: AETN2212
Co-requisites: AETN3101
This lab course helps students acquire the skills necessary to obtain an entry-level network security position. Employing hands-on practice in cyber security in a logical, technology-driven sequence, the course provides students with the skills necessary to implement and adequately support cyber security measures in an enterprise environment. Through lab work, students learn hands-on techniques using industry standard approaches to configure security hardware such as routers, switches, servers, and firewalls. Upon successful completion of this course, students are eligible to take certification exams in cyber security.

AETN3202 ANTENNAS & WAVE PROPAGATION (LAB)
Prerequisites: AETN2222
Co-requisites: AETN3102
Antennas are a critical part of wireless communication systems. This antenna lab provides students with practical experience in measuring basic antenna parameters, building antenna systems, and using antenna test benches to investigate and analyze the various antenna systems covered in the antenna and wave propagation course. Through lab work, students investigate and analyze antenna systems for suitability in given applications.

AETN3203 WORK PLACEMENT
Prerequisites: Min 85 Credits
This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering -Telecommunications and Network Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant work environment. Students learn, develop, and demonstrate high standards of behavior and performance normally expected in the workplace. The practical applications of the on-the-job training promote students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on skills demonstrated in the workplace.

AETN3221 LINUX OPERATING SYSTEM
Prerequisites: AETN2302
Linux is the operating system behind most Networking Devices and telecommunications equipment. This course covers the fundamentals of Linux as an operating system, its basic open-source concepts, and its command line. In a prescriptive, step-by-step lab environment, students are provided with hands-on access to a Linux virtual machine to practice, explore, and trial Linux command line concepts. Through programming sessions, students learn to use and configure Linux as well as to perform network configuration.

AETN3222 APPLIED PROGRAMMING II
Prerequisites: AETN2302
Building on material learned in the Python programming course, this course covers concepts such as modules and packages, string and string methods, list methods, exceptions, object-oriented programming, generators, lambdas, and file processing. Through programming application sessions, students complete coding tasks related to the more advanced aspects of programming in the Python language, including the fundamental notions and techniques used in object-oriented programming. Upon successful completion of the course, students can take the industrial exam for Certified Associate-Level Python Certified Associate Programmer (PCAP).

AETN3331 TECHNOLOGY CAPSTONE I
Prerequisites: AETN2103, AETN2203
Co-requisites: COMM3010
The capstone project enables students completing the advanced diploma in engineering technology to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams to carry out an in-depth study of a problem and apply troubleshooting and configuration techniques to technological applications. Students fully document and present their findings in a proposal for their capstone project that is completed in the following academic semester of their program.

AETN3332 TECHNOLOGY CAPSTONE II
Prerequisites: AETN3331
The capstone project enables students completing the advanced diploma in engineering technology to demonstrate the application of skills, knowledge, and competencies developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem and apply troubleshooting and configuration techniques to technological applications. Students fully document and present their findings in a written report and oral presentation that includes a technical, economic, and ethical analyses of the project outcomes.

Course Descriptions

AETN4101 CONTINUOUS & DISCRETE-TIME SIGNALS & SYSTEMS

Prerequisites: MATH2010

In this course, students learn the basic concepts of Signals & Systems in engineering. After a review of complex numbers, vectors, and matrices, the course focuses on the introduction of continuous and discrete-time signals and systems by examining linear time-invariant (LTI) systems. Students then learn advanced mathematical techniques such as Laplace transform, Z-transform, and Fourier transform. These are important tools that have several applications, such as their utilization in communication systems and signal processing.

AETN4112 ENTERPRISE UNIFIED COMMUNICATIONS

Prerequisites: AETN3101

Co-requisites: AETN4212

Telecommunication, network, and technology engineers need to understand the architecture of networks before they can design them. This course examines the technologies and considerations related to designing, operating, and troubleshooting scalable enterprise networks, including wide area network (WAN) technologies and quality of service (QoS) mechanisms. Students also gain skills in troubleshooting enterprise networks. Through lectures and presentations, students gain an understanding of network architecture and protocols used together with WAN access technologies.

AETN4121 MICROWAVE ENGINEERING

Prerequisites: AETN3111

Co-requisites: AETN4221

The understanding of microwave transmission and concepts is essential for telecommunications engineers and technology engineers as all modern wireless systems use this spectrum range. This course introduces microwave principles including microwave transmission modes, transmission lines with their applications, impedance matching and microwave network analysis. Moreover, the course presents waveguide components and applications, microwave tubes and applications, microwave electronics such as diodes, attenuators, RF switches, phase shifters, transistors, amplifiers and LNA. Through lectures and presentations, students analyze and calculate microwave properties, study current microwave systems, and study the effect of microwaves on the human body.

AETN4122 ADVANCED ENGINEERING MATHEMATICS & APPLICATIONS

Prerequisites: AETN4101

Telecommunications specialists require a deep understanding of signals and complex circuit analysis using advanced mathematical techniques. This course reviews topics such as techniques of first and second order differential equations, integral combinations, growth and decay problems, and the analysis and solution of source free RL and RC circuits. Students also learn mathematical techniques and apply these to analyze circuits. Other topics include waveform analysis and synthesis, time domain analysis, and solution of differential equations using Laplace transforms. This course also includes probability and statistics concepts and their applications.

AETN4212 ENTERPRISE UNIFIED COMMUNICATIONS (LAB)

Prerequisites: AETN3201

Co-requisites: AETN4112

Unified communication for the transportation of voice, video, and data on a single network and technology is rapidly evolving. In this course, students work in a hands-on lab environment to build, configure, test, and troubleshoot unified communications networks using various hardware, simulations, and testing tools such as Packet Tracer, Tera Term, Ping, and Traceroute.

AETN4221 MICROWAVE ENGINEERING (LAB)

Prerequisites: AETN3202

Co-requisites: AETN4221

The understanding of microwave transmission and concepts is an essential for telecommunications engineers and technology engineers as all modern wireless systems use this spectrum range. This course introduces microwave principles including microwave transmission modes, transmission lines with their applications, impedance matching and microwave network analysis. Moreover, the course presents waveguide components and applications, microwave tubes and applications, microwave electronics such as diodes, attenuators, RF switches, phase shifters, transistors, amplifiers and LNA. Through lectures and presentations, students analyze and calculate microwave properties, study current microwave systems, and study the effect of microwaves on the human body.

AETN4301 CAPSTONE PROJECT I

Prerequisites: AETN3101, AETN3201

Co-requisites: AEMA4100, COMM3010

The capstone project enables students completing an engineering degree to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem, design, or technological application. Students fully document and present their findings in a proposal for their capstone project that is completed in the following academic semester of their program.

AETN4302 CAPSTONE PROJECT II

Prerequisites: AETN4301

The capstone project enables students completing an engineering degree to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem, design, or technological application. Students fully document and present their findings in a written report and oral presentation.

AHHG2030 BIOSTATISTICS

Prerequisites: MATH1010

Biostatistics is essential for health care professionals to ensure that research in health-related fields is supported by reliable evidence. This course provides an introduction to healthcare data management, analysis, and interpretation in the classroom and lab setting. Student learn to use SPSS to organize and query statistical data, data manipulation, data cleaning, graphical displays, and data analysis using a range of statistical procedures. Students are expected to complete reports interpreting data analysis from statistical software. Students learn to answer a study question and/or validate or reject a research hypothesis using advance statistical methods.

AICC5101 THEORIES OF COMPUTING

Robust mathematical foundation and advanced computational skills are critical to addressing intricate computational problems and making data-driven decisions effectively. This course introduces the fundamentals of computational problem-solving and data science, such as linear algebra, vector calculus, probability theories, and statistical inferences. Students also learn advanced algorithms and theories in continuous optimization methods to address complex multivariate problems and develop linear programming solutions for computational optimization. The course utilizes relevant data structures and programming languages to implement efficient solutions for computational problems. Through lectures and labs, students acquire the necessary mathematics and computing skills in terms of theories and knowledge.

Course Descriptions

AICC5102 PRINCIPLES OF AI

Understanding the principles of Artificial Intelligence (AI) is crucial in today's technology-driven world, as it empowers strategic and innovative applications across various sectors. This course deepens students' command of computational intelligence for complex problem-solving and the development of adaptive solutions. The course also covers advanced algorithmic strategies, fuzzy logic, and Bayesian inference, guiding students to optimize AI models and decision-making processes. Through lectures and hands-on sessions, students develop the ability to create AI applications for diverse business domains with a focus on cybersecurity.

AICC5103 PRINCIPLES OF CYBERSECURITY

Cybersecurity is essential for safeguarding infrastructure and data in a connected world. This course presents the core principles of cyber security, offering a thorough understanding of how to protect digital information in an ever-evolving online landscape. Students learn the cyber security triad and diverse threats that characterize digital systems and examine the current legal framework and compliance standards in cyber security, allowing them to understand the regulatory context. Students also analyze various security components, measures, and strategies for risk mitigation, and propose advanced security solutions with practical elements of risk analysis and management. Through lectures, group discussions, and hands-on lab work, students acquire the necessary knowledge, skills, and attitudes to effectively, safely navigate and safeguard the digital domain.

AICC5201 MACHINE LEARNING & DEEP LEARNING

Prerequisites: AICC5102

Grasping the intricacies of machine learning and deep learning is essential for the development of intelligent systems. This course provides in-depth knowledge of theoretical concepts, advanced machine learning techniques, and deep learning to equip students with the skills to construct, optimize, and evaluate predictive models that analyze complex data patterns. The coursework follows a scientific, data-driven framework that enables students to manage technical challenges with a rigorous analytical mindset. The course includes practical experience in using data mining techniques to uncover patterns and hidden insights within large datasets, applying to real-world scenarios. Upon completion of the course, students are able to tackle data related challenges using machine learning, preparing them for complex problem-solving in various AI applications.

AICC5202 COGNITIVE COMPUTING

Prerequisites: AICC5102

Cognitive computing makes machines simulate human reasoning, a vital step in advancing AI technologies. In this course, students explore the fundamentals and applications of cognitive computing, a field that blends AI with human cognitive processes. The topics focus on equipping students with the ability to utilize reinforcement learning techniques to construct systems that can make autonomous decisions and adapt accordingly. A strong emphasis is placed on leveraging fuzzy logic to navigate and manage uncertainty within complex data sets. The course examines the construction and utilization of knowledge graphs, supplying students with the skills to perform advanced data analysis and identify valuable patterns and insights. Students acquire the necessary skills to design intricate detection algorithms essential for cognitive computing framework.

AICC5203 CYBERSECURITY ATTACKS & DEFENSES

Prerequisites: AICC5101, AICC5103

In cybersecurity, knowing the enemy is paramount to developing efficient defenses. This course offers a practical approach to cybersecurity exploring the main attack vectors that are used to target organizations, and how to defend against these attacks. The focus is on getting a thorough understanding of the principles underpinning network security, Web security, and cryptographic protocols rather than specific technologies and tools for attack or defense. The course also follows a hands-on approach, whereby attacks and defenses are practiced regularly in a lab environment, to ingrain a practical understanding of the concepts, while encouraging students to adapt the concepts they have learned to defend against original and yet unknown attacks.

AICC5204 RESEARCH METHODS & PROFESSIONAL DEVELOPMENT

Prerequisites: AICC5101

Recognizing the dynamic and interdisciplinary nature of AI and cognitive cybersecurity, this course is designed to equip students with robust research methods and professional skills vital for navigating and contributing effectively to these evolving disciplines. This course equips students with the necessary advanced research knowledge and skills, encompassing key research designs, data collection techniques, and analytical methods, among others. Additionally, the course focuses on professional development aspects, such as ethical practices, effective communication skills, and strategic career planning, among others. Through a combination of lectures and hands-on sessions, students gain the necessary techniques and insights to excel in both academic research and industry leadership roles in the fast-paced world of AI and cognitive cybersecurity.

AICC6101 COGNITIVE CYBERSEURITY

Prerequisites: AICC5201, AICC5203

This course focuses on the integration of cognitive computing into cybersecurity. It encompasses the development of machine learning models for real-time intrusion detection, employing analytics and visualization to evaluate organizational cybersecurity postures. The course also examines designing and developing cognitive systems for advanced threat analysis and creating adaptive, self-defending interconnected systems. Key components include discussions about the ethical and legal implications of AI in cybersecurity and the analysis of threats to AI solutions, with protective mechanisms. Through lectures, hands-on projects, and case studies, students learn to adopt cognitive computing strategically in cybersecurity contexts, preparing them for challenges in this evolving field.

AICC6102 AI SYSTEMS ENGINEERING

Prerequisites: AICC5202

This course links Machine Learning (ML) to system engineering and software operations. It explores the details of designing, developing, and managing AI-based systems and services. Students learn how to design data processing and feature engineering pipelines, implement, and deploy advanced ML and AI algorithms, and manage data shift and concept drift for real-world applications. The course emphasizes orchestrating heavy ML models, integrating AI and ML components, and designing cloud-based AI solutions. It offers hands-on experience with modern toolsets and cloud platforms, preparing students for challenges in AI system engineering and deployment. Through lectures, labs, and projects, students acquire the necessary operation and system administration knowledge and skills.

Course Descriptions

AICC6103 COMPUTING SEMINAR
Prerequisites: AICC5204
This is an interactive course designed to foster critical thinking and presentation skills in the context of AI and cognitive cybersecurity. Students engage in a journal club format, selecting and presenting current literature topics. Each session involves a group presentation, followed by a rigorous question and critique session from peers, promoting a deep understanding of the subject matter. In addition to enhancing students' presentation and communication skills, the course also encourages analytical thinking and peer-to-peer learning providing a platform for students to explore contemporary issues and advancements in their field, ensuring they stay abreast of the latest developments while collaboratively refining their critical appraisal abilities.

AICC6104 COMPUTING RESEARCH THESIS PROJECT I
Prerequisites: AICC5204
This is a foundational course where students embark on their research and development journey in AI and Cognitive Cybersecurity. The course guides students through the initial stages of their projects, focusing on the development of a viable research proposal. Students engage in identifying research topics, formulating research questions, and conducting a feasibility study. Emphasis is placed on applying research methodology, conducting literature review, and planning projects, laying the groundwork for subsequent implementation. Through mentorship and structured activities, students refine their research ideas into actionable project plans, which they implement in the subsequent follow-up course, Computing Research Thesis Project II.

AICC6110 SELECTED TOPICS FOR COMPUTING GRADUATION PROJECT
Prerequisites: AICC5202
This course explores emerging trends and advanced applications at the intersection of Artificial Intelligence (AI) and Cognitive Cybersecurity. Students engage in critical analyses of the current information and communication technologies landscape, evaluating the adoption of AI and cognitive cybersecurity across various sectors. The course also discusses the economic, environmental, and societal impact of AI and cognitive cybersecurity on organizations, as well as to forecast future developments in AI and cognitive cybersecurity. Through lectures, case studies analysis and engaging simulations, discussions and presentations, students are prepared to navigate the complex challenges and opportunities in this rapidly advancing field. This course prepares students to apply their knowledge in the subsequent course, Computing Graduation Project.

AICC6204 COMPUTING RESEARCH THESIS PROJECT II
Prerequisites: AICC5204, AICC6104
This is the continuation and culmination of the research and development journey started in Computing Research Thesis Project I. In this course, students implement their carefully designed research projects in the field of AI and Cognitive Cybersecurity. Building on the initial preparatory work, students execute their research plans, collecting data, applying methods, and analyzing results. This course emphasizes the practical application of research skills, problem-solving, and critical analysis. Students also refine their findings into a comprehensive research thesis, which they defend, demonstrating their ability to conduct significant research that contributes to the field.

AICC6210 COMPUTING GRADUATION PROJECT
Prerequisites: AICC5204, AICC6110
This course focuses on the practical application of students' accumulated knowledge and skills. Students choose an individual project from a broad range of offered projects, which include, but not limited to the development of tools, applications, or theoretical models in AI and cybersecurity. This course encourages creativity and problem solving, with an emphasis on applying theoretical concepts to real-world scenarios. Students plan, develop, and implement their projects, showcasing their technical abilities and problem-solving skills. The course culminates in the communication of the project outcomes.

BIOL1001 INQUIRY-BASED BIOLOGY
This course is designed for non-science majors who are interested in exploring the fundamentals of biology. Through inquiry-based learning, students will engage in hands-on investigations to discover biological concepts such as cellular biology, biotechnology, food security and ecology. Students will develop critical thinking skills and scientific literacy while exploring aspects of the living world..

BIOL1002 INTRODUCTION TO BOTANY
The purpose of this botany course is to provide students with a comprehensive understanding of plant biology, including plant structure, function, classification, metabolism, diversity, and ecological roles, with an emphasis on the importance of plants to the natural world, human society, and the need for their conservation and sustainable use. The course emphasizes the fundamental concepts and processes underlying plant biology, including taxonomy, metabolic pathways, and ecological relationships. Through lectures, discussions, and practical exercises, students will develop a foundation in botany and its practical applications in various fields such as agriculture, horticulture, and environmental science.

BIOL1003 FUNDAMENTALS OF ECOLOGY
The study of ecology helps to develop an appreciation for the relationship between living organisms and their physical environment. This course covers the essential principles of ecology from physical environment to evolution and adaption, energy flow, population, communities, and ecosystems. Through lecture and directed activities, students learn about diversity, competition, natural selection, climate change, migration, extinction and more.

BIOL1030 BIOCHEMISTRY & MICROBIOLOGY
Co-requisites: BIOL1031
The study of biochemistry and microbiology is important to students interested in any health science profession as it strengthens their understanding in what happens inside the human body and other organisms at the cellular level. This course provides students with a brief introduction to cells, the types of molecules and reactions that happen inside cells, and the different types of cells (including microbes and viruses). Besides lectures and course readings, students strengthen their understanding of biochemistry and microbiology topics through online activities and experiential learning in the co-requisite laboratory.

Course Descriptions

BIOL1031 BIOCHEMISTRY & MICROBIOLOGY (LAB)
Co-requisites: BIOL1030
This course is a valuable complement to the theoretical knowledge acquired during lectures. In this practical course, students can actively engage in hands on experiments, thereby acquiring firsthand experience in applying biochemistry and microbiology principles to real life situations. Students will deepen their understanding of cell structures and their functions. This will also lead to a comprehensive grasp of the various biochemical processes within cells and the opportunity to develop essential microbiology laboratory skills like properly handling, identifying and disposing of various microorganisms commonly encountered at the workplace.

BIOL1110 ANATOMY & PHYSIOLOGY I
For people working in health science professions, an understanding of the different systems in the human body is essential. This course introduces students to the anatomy and physiology of the human body with an emphasis on regulatory mechanisms and adaptations that maintain homeostasis. Students learn basic chemical processes as well as cellular and tissue physiology for select body systems. This course is taught through lectures, readings, and instructional videos. Knowledge learned through these means is then applied in weekly, hands-on labs.

BIOL1210 ANATOMY & PHYSIOLOGY II
Prerequisites: BIOL1110
Those in the Health Science profession must grasp the construction and operation of the human body. This course, the second segment of Human Anatomy and Physiology, explores the structure of the human body, focusing on the cardiovascular, endocrine, nervous, and urinary systems. The course employs theory, laboratory work, and virtual simulations to deepen comprehension of the anatomy and physiology of these systems.

BIOL1310 INTRODUCTION TO PATHOPHYSIOLOGY
Prerequisites: BIOL1210
Health Science professionals need to be able to recognize and understand disease pathologies and the resulting health consequences. This lecture-based course introduces students to the fundamentals of pathophysiology, which is the study of structural and functional changes in cells, tissues, and organs of the body that cause or are caused by disease. Students are provided the opportunity to explore the mechanisms of disease processes to provide the background knowledge necessary for future studies on the preventative and treatment practices.

BIOL2010 MICROBIOLOGY
Co-requisites: BIOL2011
Health Science students need to understand the classification of different microorganisms and how they contribute to disease. In this course, students learn how to identify, classify, grow, isolate and eliminate microorganisms through lecture and the co-requisite laboratory sessions. Students learn to prevent the spread of microbial disease in the health care/workplace setting through the application of infection control measures.

BIOL2011 MICROBIOLOGY (LAB)
Co-requisites: BIOL2010
A lab course is a valuable complement to the theoretical knowledge acquired during lectures. In this practical course, students can actively engage in hands-on experiments, acquiring firsthand experience applying biochemistry and microbiological principles to real-life situations. Students deepen their understanding of cell structures and their functions, leading to a comprehensive grasp of the various biochemical processes within cells and the opportunity to develop essential microbiology laboratory skills like properly handling, identifying, and disposing various microorganisms commonly encountered at the workplace.

BKFT1001 PRINCIPLES OF FINANCE
Prerequisites: ACCT1001
A comprehensive introduction to finance concepts is the foundation of content area knowledge for business and finance students. This course introduces the five fundamental principles of finance and then surveys the core values to business operations provided by the core finance functions. Topics included are: the five principles of financial management, the valuation of financial assets, investment in long term assets, capital structure and dividend policy and working capital management. Through lectures, lab exercises, videos and discussions, students learn to use a financial calculator and a look-up table to make financial management decisions.

BKFT2001 BANKING & FINANCIAL INSTITUTIONS
Prerequisites: BKFT1001
A foundational knowledge of operations in banking and financial institutions can allow students to understand the backbone of the banking industry. In this course, students survey the importance and functions of commercial, Islamic and central banks as well as the World Bank and IMF. Other major financial institutions like the stock exchange, insurance and other non-banking finance companies are also studied. Learning activities include lectures, discussions, basic fact-finding projects and presentations.

BKFT3001 FINANCIAL RISK MANAGEMENT
Prerequisites: Min 60 Credits
Risk is both inevitable and a cause for concern in banking. Banks in recent years, like most businesses, have experienced extraordinary changes that significantly increased the need for proper risk management. In this course, students study the importance and impact of mitigating the most important risks banks and many other businesses face -Credit, Market, Operational and Liquidity risk. The framework of the recommended global standard of Basel III is used to study financial risk management through highly interactive activities, including case studies, discussions, article reviews and a group project and presentation.

BKFT3005 STRATEGIC FINANCIAL DECISION MAKING
Prerequisites: BKFT1001
Financial management and financial decision-making are integral functions in any business operation. In this course, students learn to effectively perform key financial functions while keeping the strategic goals of the organizations in focus. Students apply the strategic financial management process while planning, budgeting, forecasting, mitigating risk, decision-making, and analyzing & developing business solutions. These topics are benchmark topics for future management accountants and financial professionals. Corporate social responsibility, while making financial decisions is explored. Learning activities are highly interactive and include lectures, case studies, discussions, article reviews and a group project and presentation.

BKFT3007 PRINCIPLES OF CORPORATE FINANCE
Prerequisites: BKFT1001
The study of Corporate Financial Management, which addresses the core concepts, questions and decisions which sit behind the creation of corporate value (Investment Decisions, Financing Decisions, Dividend Decisions) are a key part of any student's engagement with the discipline of financial management. The course introduces students to core concepts regarding the objectives of finance, how capital is first raised, then deployed into wealth-creating operations and then how wealth is then returned to the providers of capital optimally. At the end of the course, the student should be able to demonstrate in-depth knowledge of the fundamentals of corporate finance and develop the skills and ability to analyze corporate finance decisions in both quantitative and qualitative terms.

Course Descriptions

BKFT3010 PERSONAL FINANCE & WEALTH PLANNING

Prerequisites: BKFT1001

Knowledge of how an individuals' financial requirements change throughout their lifetime and how financial products can be used to satisfy differing needs and circumstances is important in understanding how to effectively assist clients of all ages. In this course, students learn how to assist clients in planning their finances at various stages of life. Students undertake both directed and independent learning through lectures, presentations, and workshops.

BKFT4001 FINANCIAL INNOVATION IN MARKETS & TECHNOLOGIES

Prerequisites: BKFT2001

This course is designed to provide students with the knowledge and skills required to critically examine financial innovation and its consequences on markets, institutions and broader society. Students study the progress of financial innovation and the stages of financial technology development. They acquire the necessary skills to critique the technological advancements and innovations in the banking industry, capital markets and insurance market. They also examine how government policies can help or hinder the speed & breadth of innovation in the financial world. Learning activities in this course are highly interactive and include lectures, discussions, case studies, research projects, and presentations.

BKFT4010 PORTFOLIO MANAGEMENT

Prerequisites: BKFT3007

Understanding advanced techniques in asset allocation and portfolio management and applying them in real-world investment casework, is a skill that will benefit students in their financial management careers. This course teaches the theory and skills necessary to design, execute, and evaluate investment proposals that meet financial objectives. Through the use of both quantitative tools and qualitative decision-making, students learn to model asset price procedures and empirical research findings using cases, projects, and real-time portfolios that require hands-on application of the material.

BKFT4015 DERIVATIVES & RISK

Prerequisites: BKFT3005

Understanding key risk management instruments such as futures, forwards swaps, and options can help transform risk within the financial system. The main objective of this course is to help students gain the intuition and skills needed for pricing and hedging of derivative securities, and for using these for investment, risk management, and prediction purposes. Through lectures, seminars and Excel-based workshops, students will discuss a wide range of applications and real-life cases, including the use of derivatives in asset management, the valuation of corporate securities such as stocks and corporate bonds, interest rate derivatives, credit derivatives, as well as crude oil derivatives and currency derivatives.

BKFT4020 INVESTMENT ANALYSIS

Prerequisites: BKFT3007

This course will enable the student to understand and apply theories and techniques of managing investment in financial assets more effectively. Through work in the Bloomberg lab and MS Excel, the student will learn the necessary skills of asset allocation, portfolio diversification, asset pricing while also gaining exposure to behavioral biases in investment decisions. It describes the main participants, their objectives and constraints, and the major investment markets. The course covers investment strategies for bonds, equities, and structured products including the use of derivatives in managing risk. Portfolio optimization and asset allocation are covered, as well as how to measure portfolio performance. Ethical investment and behavioral investment biases are also explored in this course. The course aims to provide the student with the knowledge and skills of applying a variety of quantitative and financial tools to construct, rebalance and evaluate portfolio consisting of financial assets mainly equities. The course is organized within the themes of rational and irrational decision making in investments. It is consistent with the CFA Institute. By the end of the course, you will be able to evaluate individual securities, investment strategies and portfolio performance in the context of investor objectives, constraints and behavioral biases.

BUSG2001 INTRODUCTION TO ENTREPRENEURSHIP

This is an introductory course that presents basic business concepts related to entrepreneurship to students through interactive classes. It aims to help students understand the entrepreneurs' mindset and how they identify, evaluate, and select business opportunities, transforming ideas into feasible ventures. Throughout the course, students engage in researching and assessing the feasibility of a business idea. Through participation in workshops, such as ideation, and exploring opportunities, students learn to apply fundamental business concepts to a business model to determine its potential for success.

BUSG2002 PROJECT MANAGEMENT

This course introduces students to the fundamental concepts of project management throughout the project life cycle. Utilizing the project management framework standardized by the Project Management Institute (PMI), students review project management processes, knowledge areas, and the tools and techniques used to manage projects from their initiation to closeout. Other topics include the importance of stakeholders, work breakdown structure (WBS), critical path analysis, risk analysis, and earned value management (EVM).

BUSG2010 QATAR BUSINESS LAW

A basic understanding of local business law is essential for every businessperson. This course introduces students to the legal system in Qatar by exploring topics such as legislation related to the oil and gas industry, company establishment in Qatar, contract law, securities, data protection, privacy and communications law, labor laws, residency and foreign worker hiring, tort laws, international laws, and current topics in the law relevant to Qatar. Through application of the lecture materials and the legislation itself, this course allows students to resolve various business-related scenarios that require the use of Qatar law in the problem-solving process.

Course Descriptions

BUSG2301 WORK PLACEMENT
Prerequisites: Min 54 Credits
This internship course augments students' knowledge, skills, and competencies in program specific courses completed at the diploma level. Students have an opportunity to practice and reflect on content and theories covered in the classroom environment. Students are able to undertake their work integrated learning in a broad spectrum of work environments such private organizations, public sector and non-profit organizations.

BUSG4101 PRACTICUM IN BUSINESS
Prerequisites: Min 90 Credits
This course provides students with professional coaching experience to build a successful career in the real world of business organizations. The course is designed for applied learning where the knowledge accumulated during the program is applied to real-life cases such as establishing a business, starting a new business venture, or developing skills in computer programs. By offering several certification-based modules, the course prepares students to be job ready for work environments with collaboration and leadership skills to efficiently start their careers.

BUSG4201 CAPSTONE PROJECT
Prerequisites: BUSG4101
The objective of the Capstone Project is for the students to apply the theoretical and applied knowledge they have acquired during their degree program. In teams, students have the opportunity to conduct either a research-based dissertation or develop a business plan for an entrepreneurial venture under the supervision of an experienced academic supervisor and in collaboration with faculty, industry, and/or other stakeholders. This course allows students to develop skills related to analytical research as well as market analysis and entrepreneurial planning for the competitive business environment.

BUSG4301 WORK PLACEMENT
Prerequisites: BUSG4201
This internship course augments students' knowledge, skills, and competencies in program specific courses completed at the undergraduate level. Students have an opportunity to analyze practical work-related issues, recommend strategies to address the concerns, practice and reflect on content and theories covered in the classroom environment. Students are able to undertake their work integrated learning in a broad spectrum of work environments such as private organizations, public sector, and non-profit organizations.

BUSG5010 ADVANCED BUSINESS RESEARCH METHODS
Research skills are essential for success in advanced education and in the workplace. This course provides the theoretical and practical knowledge required to develop a research-based project in the final semester of a master's program. The course develops students' understanding of quantitative, qualitative, and mixed research methods for use in analyzing integrated macro and micro paradigms in business management fields. Through a variety of methods, this course also presents students with concepts related to social network research design, literature review, research methods, sampling techniques, data collection, and application of statistical tools to interpret the data.

BUSG5020 DECISION MAKING & NEGOTIATION
Decision-making and negotiation skills are essential for any businessperson. This course explores decision-making and negotiation theories, processes, and techniques for students' competency development. The course provides opportunities to develop advanced skills in decision-making, effective negotiation, and relationship management. Through a variety of case studies, class discussions, simulations, and evidence-based research, students develop negotiation appraisal skills which lead the negotiation process.

BUSG5030 CORPORATE SOCIAL RESPONSIBILITY & GOVERNANCE
In recent years, businesses have come to understand the importance of social responsibility and governance. This course examines the development and application of corporate social responsibility (CSR) and corporate citizenship as multidisciplinary concepts and their implications in the workplace. Students are tasked with evaluating risks, integrating CSR practices into core business strategies, and designing successful CSR policies that take contextual implications into account. Through a descriptive and applied approach, students also discuss the role of corporate governance in developing responsible corporate citizens as well as its importance in formulating and implementing effective CSR strategies.

CHEM1010 GENERAL CHEMISTRY I
Co-requisites: CHEM1011
Chemistry is the study of matter and how it interacts with other matter, making it an essential science for engineers. This course aims to provide students with the basic principles of general chemistry by introducing the structure of matter and units of measurements before moving onto the types of chemical reactions, stoichiometric calculations, periodic table properties, chemical bonding, and molecular geometry. The final section explores solutions and electrochemistry so that students develop a deeper understanding of concepts in their technical courses, from a molecular point of view. Students study the theory through lectures and videos then apply this knowledge to chemical problems.

CHEM1011 GENERAL CHEMISTRY I (LAB)
Co-requisites: CHEM1010
Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course introduces students to the chemistry laboratory and provides the opportunity to further student understanding of the basic chemistry concepts studied in General Chemistry I.

Course Descriptions

CHEM1020 GENERAL CHEMISTRY II
Prerequisites: CHEM1010, CHEM1011
Co-requisites: CHEM1021
Chemistry is used in many engineering fields and tasks, such as manufacturing, production facilities, and the production of high-value chemicals for long-lasting products. This chemistry course will extend students' prior knowledge of basic chemical concepts to more complex chemical interactions. The course starts with in-depth stoichiometry calculations as they relate to chemical reactions, in particular acid-base chemistry and chemical equilibrium. The course also introduces students to gases, thermochemistry, chemical kinetics, hydrocarbon chemistry and metallurgy. Students are provided with the opportunity to apply their problem-solving skills and theoretical knowledge to practical problems found in engineering.

CHEM1021 GENERAL CHEMISTRY II (LAB)
Prerequisites: CHEM1010, CHEM1011
Co-requisites: CHEM1020
Chemistry laboratory courses enhance student understanding by helping them visualize abstract chemistry concepts through experimental investigations. This course allows students to further their understanding of theoretical chemical concepts through practical experiments. Students are provided with the opportunity to study new laboratory techniques as they explore chemical concepts such as thermochemistry, acids and bases, hydrocarbons, and chemical kinetics.

CHEM1030 HEALTH SCIENCES CHEMISTRY
Co-requisites: CHEM1031
Chemistry has many applications in the healthcare field. Topics to be covered include matter, measurements, the atom, the periodic table, chemical bonding, formulas, reactions, and stoichiometry, gas laws, chemical kinetics and equilibrium, electrochemistry, acids and bases. Nuclear chemistry including its applications are also explored. Through lectures and class discussions, students extend their knowledge and relate it to their profession.

CHEM1031 HEALTH SCIENCES CHEMISTRY (LAB)
Co-requisites: CHEM1030
Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course allows students to further their chemical understanding of theoretical concepts through experimentation as they learn new laboratory techniques to study the concepts outlined in Health Sciences Chemistry.

CHEM1040 APPLIED SCIENCE
Co-requisites: CHEM1041
Understanding general scientific principles is essential to understanding the world around us; this is particularly true for Health Sciences professionals. In this course, principles of chemistry and physics are studied as they apply to the practice of health sciences. Major topics include bonding, matter, solutions, equilibrium, electrochemistry, thermochemistry, and kinetics. Through lectures and course readings, students are provided with the opportunity to expand their knowledge of these topics and then apply this knowledge in weekly, hands-on labs in the co-requisite course.

CHEM1041 APPLIED SCIENCE (LAB)
Co-requisites: CHEM1040
Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course allows students to further their understanding of theoretical chemical concepts through practical experiments. Students explore new laboratory techniques as they study chemical concepts related to applied science. Topics include gas laws, phase changes, chemical equilibrium, buffers, and electrochemistry.

CHEM3010 PETROCHEMISTRY
Prerequisites: CHEM1020
Co-requisites: CHEM3011
The petroleum industry is based on an understanding of the chemistry of petroleum products. This course provides students a greater understanding of the concepts that form the basis of chemical technology in the petroleum industry. It provides an overview of the fundamental petrochemical separation and conversion process of petroleum and natural gas which are prominent in the hydrocarbon processing industry. Through lectures and class discussions, students explore these topics and relate them to the local industry of today.

CHEM3011 PETROCHEMISTRY (LAB)
Prerequisites: CHEM1021
Co-requisites: CHEM3010
Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course further develops students' experimental techniques in the chemistry laboratory and provides them the opportunity to explore the behavior of basic organic chemicals, which are the building blocks of the petrochemical industry. The experimental study/testing of chemical and physical properties of hydrocarbon and non-hydrocarbon groups found in the petroleum industry further students' understanding of the concepts studied in Petrochemistry.

COMM1010 ENGLISH COMMUNICATION I
A solid foundation in reading and writing skills is essential to prepare students for success in any program of study. Students will be introduced to writing structure, reading strategies in academic contexts, and various styles of writing. Through varied reading and writing assignments, students will have the opportunity to apply these fundamental communication skills to academic writing.

COMM1020 ENGLISH COMMUNICATION II
Prerequisites: COMM1010
Communication skills are an essential part of both workplace professionalism and career advancement. Building on the skills learned in English Communication I, this course is designed to help students direct their reading and writing abilities toward generating research reports in their program of study. By critically interpreting and analyzing information and data and then using this information and knowledge in various forms of workplace communication, students are encouraged to achieve proficiency in evidence-based reporting in oral and written formats.

COMM3010 RESEARCH & REPORTING
Prerequisites: COMM1020
The ability to independently research and report on a topic becomes increasingly important at the higher levels of study in a university program. By individually locating, evaluating, summarizing, and organizing secondary research sources and data, students analyze research in relation to a problem they are solving, draft a proposal, write a final report, and present their research to their peers. Students are also given the opportunity to practice effective debating techniques to help them defend a position on a solution to a technical problem. Lectures, debates, presentations, and assignments guide students as they develop their final report.

Course Descriptions

COMM3010A RESEARCH & REPORTING (البحوث وإعداد التقارير)

Prerequisites: COMM1020

The ability to independently research and report on a topic becomes increasingly important at the higher levels of study in a university program. By individually locating, evaluating, summarizing, and organizing secondary research sources and data, students analyze research in relation to a problem they are solving, draft a proposal, write a final report, and present their research to their peers. Students are also given the opportunity to practice effective debating techniques to help them defend a position on a solution to a technical problem. Lectures, debates, presentations, and assignments guide students as they develop their final report.

COMM5010 TEACHING STEM/TVET TO EAL STUDENTS

Efficient self-expression is a vital part of any field of STEM education. This course is designed to provide teachers with the skills and knowledge necessary to effectively teach Science, Technology, Engineering, Mathematics (STEM) or Technical and Vocational Education and Training (TVET) courses to second language learners in an English-speaking context. Through an exploration of teaching methods in developing students' vocabulary acquisition, reading comprehension, and understanding of technical terminology, students have an opportunity to apply STEM-specific vocabulary acquisition techniques in a plain language context, reading strategies across different STEM/TVET subjects, and technical language retention using real-world examples to illustrate technical terms.

COMP1401 INTRODUCTION TO COMPUTERS & INFORMATION SYSTEMS

Computers and information systems are necessary to work efficiently and professionally in this digital era. Topics include an introduction to computers and computer systems, networking, effective usage of the Web, essential cybersecurity aspects, and the importance of ethical conduct in digital environments. The course also focuses on the best practices and usage of office software, such as word processors and presentation and spreadsheet software, that are needed in most professional environments. The course is delivered through short lectures, online content, labs, and assignments that help students practice their skills with an emphasis on professional and ethical behavior.

COMP2201 TECHNICAL PROJECT

Prerequisites: Min 39 Credits

This course is an opportunity for students to apply the knowledge and skills gained towards the completion of a technical project. The focus is on the design and implementation of a proposed technical solution. Students work in a team, under the guidance of a supervisor, following professional and ethical code of conduct. Students conclude the course with a report and presentation of the work completed.

COMP2301 WORK PLACEMENT

Prerequisites: COMP2201

This course is designed to support students in their transition from the university environment to a work environment. The course offers guidance on workplace expectations and ethical considerations, applying technical knowledge and skills, developing employability skills, and fostering lifelong learning habits. Students engage with mentors, participate in discussions, and complete practical assignments to prepare them for success in the ICT field.

COMP3301 WORK PLACEMENT I

Prerequisites: Min 50 Credits

This course is designed to support students in their transition from the university environment to a work environment. The course offers guidance on workplace expectations and ethical considerations, applying technical knowledge and skills, developing employability skills, and fostering lifelong learning habits. Students engage with mentors, participate in discussions, and complete practical assignments to prepare them for success in the ICT field.

COMP4101 PRACTICUM

Prerequisites: Min 80 Credits

The practicum provides students with an opportunity to apply the knowledge and skills gained towards the completion of a project. Students work in a team, under the guidance of a supervisor, following professional and ethical code of conduct, to define and refine their project's design and potentially conduct preliminary implementation. The practicum experience culminates into a capstone proposal, which students are to defend before a panel of judges. This course sets the stage for a continuation of the project into the capstone course, where students implement and deliver on their project proposal.

COMP4201 CAPSTONE PROJECT

Prerequisites: COMP4101

The capstone is a follow-up to the practicum course in providing students with an opportunity to apply the knowledge and skills gained towards the completion of a technical project. This course stands as the apex of student project work, wherein students bring their practicum-conceived proposals to fruition, following professional and ethical code of conduct. The capstone focuses on the implementation of the proposed project solution and requires students to critically evaluate the results, necessitating appropriate responses to both positive and negative outcomes. Students conclude the capstone project with a comprehensive report and a defense presentation of the work completed to a panel of judges.

COMP4301 WORK PLACEMENT

Prerequisites: COMP4201

Work placement is designed to support students in their transition from the university environment to a work environment. The work placement course is a program requirement that enables students to apply the knowledge, skills, and competencies gained through the academic program to a practical work environment. It offers opportunities to analyze real-world work challenges, propose solutions, and practice learned theories and concepts. Students gain diverse work-integrated learning experiences that emphasizes the development of communication, critical thinking, ethics and leadership abilities, collaboration, and teamwork.

COMP4302 WORK PLACEMENT II

Prerequisites: COMP4201

Work placement is designed to support students in their transition from the university environment to a work environment. The work placement course is a program requirement that enables students to apply the knowledge, skills, and competencies gained through the academic program to a practical work environment. It offers opportunities to analyze real-world work challenges, propose solutions, and practice learned theories and concepts. Students gain diverse work-integrated learning experiences that emphasizes the development of communication, critical thinking, ethics and leadership abilities, collaboration, and teamwork.

Course Descriptions

DACS2101 DISCRETE STRUCTURES
Prerequisites: INFS1101
This course introduces students to the fundamental discrete structures required for computing. Students are encouraged to analyze problems related to discrete structures and find correct solutions backed by clear and precise proof. Topics covered include logic and proving methods; sets, functions, sequences and summations; numeral systems; logic gates and simple combinational circuits; induction; counting tools and discrete probability; relations, graphs and trees. The course is delivered through lectures, tutorials and exercises and relies on a reference textbook backed by D2L content.

DACS2201 INTRODUCTION TO DATA & CYBER SECURITY
Prerequisites: INFT2101
This course introduces students to the core concepts underpinning Data and Cyber Security. It discusses the fundamental concepts of cyber security, identifies major threats and attack vectors, different ways to mitigate them and how to apply cyber-hygiene principles to secure personal data. The topics covered span the full spectrum of cybersecurity as a discipline at an introductory level, including technical aspects such as malware, cryptography, network security, authentication and access control. In addition, the course highlights organizational, human, and societal components of cyber security.

DACS3101 APPLIED CRYPTOGRAPHY
Prerequisites: DACS2101
Cryptography has indeed crept into everything, and everyone uses it daily without knowing. This course covers fundamental aspects of modern cryptography, which is the cornerstone of cybersecurity. The course starts by reviewing historical ciphers, and their application. It then moves to essential building blocks of modern cryptography: stream, ciphers, block ciphers, asymmetric cryptosystems and hash functions. Mathematical concepts underpinning these technologies, such as modular arithmetic, elements of number theory and elliptic curves, are also covered. Finally, the course introduces cryptographic protocols that combine previously introduced tools to solve practical problems such as password security, digital signature and secure communications. The course relies on lectures and exercises for the theoretical concepts and emphasizes the implementation of different algorithms in a high-level programming language.

DACS3201 NETWORK SECURITY
Prerequisites: INFT3101
This course aims to develop the network security skills required in an enterprise network setting. It enables students to use systems, tools, practices, and relevant technologies to elaborate and implement a security plan for an enterprise network. The topics covered in this course are secure network access, network security protocols and technologies such as Firewalls, IDS/IPS, VPN, network security policies, secure network design, deployment and configuration of security controls (including NAT/PAT) and protocols, and management of security solutions. The course is delivered using lectures, tutorials, simulation software, and hands-on labs and exercises.

DACS3202 CYBER SECURITY ANALYTICS & VISUALIZATION
Prerequisites: DSAI2201
This course demonstrates the power of analytics and visualizations for cyber security monitoring and management. First, it covers the process of unstructured data to wisdom extraction by explaining the fundamental aspects of a monitoring architecture and statistical tools to analyze logs and visualize the results. Additionally, it covers other analytic concepts by augmenting logs and gathering threat intelligence, using machine learning algorithms, garnering the power of big data and presenting the output in efficient synthetic and actionable visual artefacts targeted at different audiences. The course is delivered through lectures, labs, and projects to allow students to practice these skills in real-world cases.

DACS3203 SECURE SOFTWARE DEVELOPMENT
Prerequisites: INFS3102
This course introduces students to the fundamental design principles of secure software development. By the end of this course, students are able to write secure code with appropriate documentation and analyze security considerations at each phase of the software development lifecycle. The topics include software security requirements, fundamental design principles of secure software, secure coding and implementation, and finally testing a secure software application. The course is delivered using lectures, tutorials, and exercises and it relies on a reference textbook backed by D2L content.

DACS3301 PRIVACY IN THE DIGITAL ERA
Prerequisites: DACS2201
This course examines the fundamental concept of digital privacy in the modern world from technological, legal, organizational, human and societal perspectives. Students review the key concepts of privacy, then they assess the evolution of privacy in the digital area and in particular the numerous threats to individual privacy. The course then describes a wide-spectrum of privacy enhancing technologies, the international legal regulations that protect privacy, how organizations manage and comply with privacy regulations, before debating data privacy as a captivating concern and benefit to individuals and societies. This course is delivered using lectures, in-class activities/exercises, group work, and case studies.

DACS4101 SECURITY ENGINEERING PRINCIPLES
Prerequisites: DACS3101
This course explores the best engineering practices to develop secure systems. It covers cyber security risk assessment and management, including cost benefit trade-offs. It then examines general secure design principles, followed by identity and access management as a first line of defense for any system. Students then examine the interplay between component and system security, and finishes with human aspects that impact organizational security such as psychology and usability or social engineering and the importance of training to mitigate these risks. The course alternates between lectures, labs, and case studies to immerse the students in the field.

DACS4102 WEB SECURITY
Prerequisites: INFS3201
This course equips the student with the skills needed to assess cyber threats against web systems and to deploy solutions that can protect against cyber-attacks. Topics include the HTTP protocol, web browsers, web servers, authentication and authorization attacks, information leaks, XSS attacks, CSRF attacks, injection attacks, DoS attacks, session hijacking, XML attacks, the HTTPS and encryption. The course is delivered using lectures, tutorials, and assignment exercises, and it relies on a reference textbook backed by D2L content.

Course Descriptions

DACS4103 SCRIPTING FOR CYBER SECURITY

Prerequisites: INFS3102

This course equips students with system and network programming skills for cyber security operations. It covers scripting in bash, including searches using regular expressions, data collection and analysis, real-time monitoring and security administration in bash. The second part of the course builds strong scripting skills in a higher-level programming language, such as python, to interact with system processes, manipulate files to extract metadata, analyze logs, program the network, and investigate and manipulate network packets. The course is delivered using lectures and online resources on D2L with a strong emphasis on practicing efficient scripting skills in the context of cyber security operations.

DACS4105 CYBER PHYSICAL ARCHITECTURES & PROTOCOLS

Prerequisites: INFT3101

This course introduces the principles, tools, models, and processes essential to cyber-physical system development, such as model-based development methods, basics of feedback for task scheduling, modern verification, and validation techniques, and their integration in today's industrial development processes. This course focuses on the design and operation of secure and safe Cyber Physical Systems (CPS). Students learn the general architecture of CPS in different domains including public infrastructure, control mechanisms, communication protocols in CPS, and programming of Programmable Logic Controllers (PLCs).

DACS4202 PENETRATION TESTING

Prerequisites: DACS3203

This course explores advanced tools and techniques used by ethical hackers to complete a penetration test on a system. The topics include an overview of the cyber kill chain, in-depth coverage of vulnerability exploitation in enterprise and web-based systems, post exploitation techniques, and attack countermeasures. The course is delivered using lectures and tutorials with emphasis on hands-on training by using a variety of labs, assignment exercises, and a project, and it relies on a reference textbook backed by D2L content.

DACS4203 IOT & OT HACKING

Prerequisites: DACS2201, INFS3102

This course is designed to equip the students with skills to perform ethical penetration testing of Internet of Things (IoT) devices and environments, including Industrial IoT devices used in Operational Technology (OT). It covers the threat landscape of IoT and OT, and the security testing methodology to follow in an ethical penetration testing of an IoT environment. The rest of the course covers various techniques to hack the network, the hardware, the radio interface of IoT devices and even IoT applications exploitation. The course is delivered through short lectures and hands-on labs to practice the techniques on a popular IoT platform.

DACS4204 CLOUD SECURITY

Prerequisites: DACS3201

This course deals with security considerations pertaining to cloud environments and deployment of applications in a cloud environment. The course starts by introducing the main cloud computing concepts, the references architectures and the main design principles of secure cloud computing. It then covers data security, infrastructure security, application security and security operations in a cloud context, and finishes by addressing specific risks and legal frameworks of cloud computing. The course is delivered by means of lectures and practical lab deployments, with additional content on D2L to provide a pathway towards obtaining a certification such as ISC2 CCSP or CSA CCSK.

DACS4205 DIGITAL FORENSICS

Prerequisites: DACS3203

In this course, students are equipped with the skills needed to perform digital forensics, in the context of either threat hunting or legal digital investigation. The course covers the legally admissible forensics process including documentation, and proceeds with the technical aspects starting with physical acquisition of storage media (disk cloning), analysis of the filesystem and the main memory. The course further covers investigation of online activity and finishes with aspects of mobile and wearables forensics. The course is delivered though lectures, tutorials, case studies and hands-on experimentation during labs where students experiment with state-of-the-art forensics tools.

DACS4206 SECURITY MONITORING & INCIDENT RESPONSE

Prerequisites: DACS3202

This course advocates a proactive approach to security monitoring. Students learn about Defensible Security Architectures, Network Security Monitoring (NSM and Continuous Security Monitoring (CSM) as it relates to organizations. Student further learn about multi-tier Security Operation Centers (SOC) and their corresponding architecture, tools and processes, to monitor the infrastructure, analyze threats, detect anomalies that could indicate cybercriminal behavior, trigger the incident response process against identified threats, the involved stakeholders, the lessons learned from an incident to build up threat intelligence and improve the cyber security posture of the organization. The course is delivered using lectures, tutorials and exercises and it relies on a reference textbook backed by D2L content, as well as hands-on practice in a lab equipped with SOC capabilities.

DACS4208 INDUSTRIAL CONTROL SYSTEMS SECURITY

Prerequisites: DACS4105

This course introduces the overall background and essentials of Industrial Control Systems (ICS). Students become familiar with ICS/OT security concepts, secure architecture, threat models, and ICS/OT security standards and best practices. Likewise, they learn to understand and explain the role of industrial control systems (e.g., SCADA systems) in industry and identify unique cybersecurity risks associated with them. This course provides hands-on training for understanding, protecting, and securing Industrial Control Systems (ICS) from cyber-attacks and includes a red team versus blue team exercise conducted within an actual Control Systems environment. Throughout the course, exercises and demonstrations inspired by actual cases and incidents in the ICS world enable learners to advance their knowledge in the field of ICS security.

DACS4210 CYBER SECURITY POLICIES, STRATEGIES & PROCEDURES

Prerequisites: DACS3301

This course provides students with information on the origin of cyber security policy, governance structures for policy creation, selection and implementation of policy, and audit and control functions to ensure compliance and efficacy. Students are exposed to the national and international policy and legal considerations related to cybersecurity and cyberspace such as privacy, intellectual property, cybercrime, homeland security (i.e., critical infrastructure protection) and cyberwarfare, and the organizations involved in the formulation of such policies. The course also focuses on the foundations of cybersecurity, including threats and vulnerabilities as well as the tools, technologies, and strategies used to manage them.

Course Descriptions

DCMP1001 MEDIA THEORY & PRACTICE
In this course, students are introduced to the major key thinkers and movements that have framed, and continue to frame, the way we understand the production and consumption of media, its meaning and its affect. Understanding of the technological building blocks that make up digital media & culture, & of the ways they come together to shape myriad facets of life. Applying key conceptual models and critical approaches to media texts, students develop an understanding of the way media practices and consumes information.

DCMP1001A MEDIA THEORY & PRACTICE (نظريات الإعلام والممارسات)
In this course, students are introduced to the major key thinkers and movements that have framed, and continue to frame, the way we understand the production and consumption of media, its meaning and its affect. Understanding of the technological building blocks that make up digital media & culture, & of the ways they come together to shape myriad facets of life. Applying key conceptual models and critical approaches to media texts, students develop an understanding of the way media practices and consumes information.

DCMP1003 QATAR MEDIA HISTORY
This is an introductory course that follows the origins of Qatar's media market and discusses its principal challenges in the 21st century. Students learn how intercontinental cultural connections affected the development of the country's media institutions and their broadcast aesthetics. Acknowledging the value of all legacy and new media institutions in Qatar, this course uses the example of Al Jazeera Media Network in a key case study on the perception of Qatar in the global media landscape. Lastly, through screenings, essays, tests and lab debates, the students gain an understanding of what parts of Qatar's media market are still developing so they can position themselves as future media/communication professionals in the emerging market.

DCMP1003A QATAR MEDIA HISTORY (تاريخ قطر الإعلامي)
This is an introductory course that follows the origins of Qatar's media market and discusses its principal challenges in the 21st century. Students learn how intercontinental cultural connections affected the development of the country's media institutions and their broadcast aesthetics. Acknowledging the value of all legacy and new media institutions in Qatar, this course uses the example of Al Jazeera Media Network in a key case study on the perception of Qatar in the global media landscape. Lastly, through screenings, essays, tests and lab debates, the students gain an understanding of what parts of Qatar's media market are still developing so they can position themselves as future media/communication professionals in the emerging market.

DCMP2001 DIGITAL COMMUNICATION STRATEGIES
Prerequisites: DCMP1001
A Digital Communication Strategy is a systematically planned and organized communication campaign across selected digital media that aims to increase awareness, sales, and brand loyalty. This course introduces students to the major strategic decisions that can be taken that allow for the development and documentation of a strategy for a particular product or service.

DCMP2001A DIGITAL COMMUNICATION STRATEGIES (استراتيجيات الاتصال الرقمي)
Prerequisites: DCMP1001A
A Digital Communication Strategy is a systematically planned and organized communication campaign across selected digital media that aims to increase awareness, sales, and brand loyalty. This course introduces students to the major strategic decisions that can be taken that allow for the development and documentation of a strategy for a particular product or service.

DCMP2005 DIGITAL MEDIA COMMUNICATION
Prerequisites: MRKT2003
This course is an introduction to the production components of digital media communication. Through hands-on activities using industry-relevant software, students explore the core technical components of digital media communication, including a broad overview of image, publishing, audio, video and animation production and authoring tools. Throughout the course students build a portfolio of work showcasing their technical digital communication production skills.

DCMP2005A DIGITAL MEDIA COMMUNICATION (وسائل الإعلام الرقمية والاتصالات)
Prerequisites: MRKT2003
This course is an introduction to the production components of digital media communication. Through hands-on activities using industry-relevant software, students explore the core technical components of digital media communication, including a broad overview of image, publishing, audio, video and animation production and authoring tools. Throughout the course students build a portfolio of work showcasing their technical digital communication production skills.

DCMP2010 INTRODUCTION TO JOURNALISM
Prerequisites: DCMP1001
In this course, students are introduced to basic journalism skills and are exposed to a wider philosophical understanding of the journalist's responsibility to society. The course provides a basic survey of the field and instruction in the fundamentals of journalistic writing, interviewing, and editing.

DCMP2010A INTRODUCTION TO JOURNALISM (مقدمة في الصحافة)
Prerequisites: COMM1020
In this course, students are introduced to basic journalism skills and are exposed to a wider philosophical understanding of the journalist's responsibility to society. The course provides a basic survey of the field and instruction in the fundamentals of journalistic writing, interviewing, and editing.

DCMP2015 INTRODUCTION TO VISUAL COMMUNICATIONS
Prerequisites: DCMP1001, DCMP1001A
Visual communication is an essential skill for effectively communicating ideas, information, and perspectives to diverse audiences in a variety of contexts. Students learn about the theories of visual perception and psychology underlying visual design principles, and strategies for the composition of visual elements to produce effective and compelling visual communications.

DCMP2025 GRAPHIC DESIGN FUNDAMENTALS
Prerequisites: MATH1010 OR AMPII Score of 75%
This course explores the fundamental elements of graphic design especially as related to the development of visual languages and product branding. Students learn about color and shape, typography and iconography. Throughout the course students use the appropriate digital technologies to develop digital graphic media.

DCMP2030 NEWSWRITING TECHNIQUES
Prerequisites: COMM1020
In this course, students learn how to structure a news article, write to journal and industry standards, develop an effective headline and a strong introduction and how to incorporate and attribute quotations. The course also makes students aware of the importance and methods of gaining and validating information and of the possible legal consequences of presenting inaccurate or biased material. Finally, this course looks at the different styles of writing used by different papers, magazines and other publications.

Course Descriptions

DCMP2030A NEWSWRITING TECHNIQUES (تقنيات كتابة الأخبار)
Prerequisites: COMM1020
In this course, students learn how to structure a news article, write to journal and industry standards, develop an effective headline and a strong introduction and how to incorporate and attribute quotations. The course also makes students aware of the importance and methods of gaining and validating information and of the possible legal consequences of presenting inaccurate or biased material. Finally, this course looks at the different styles of writing used by different papers, magazines and other publications.

DCMP2035 STUDIO PRODUCTION I
Prerequisites: DCMP1001 & Min 24 Credits
This course introduces students to the principles and fundamental skills of studio production techniques and specialized equipment operations in a traditional television setup. Through a range of hands-on activities, students will also learn the specifics of roles such as director, producer, camera operator, jib operator, audio engineer, floor manager, PA runner, and on-camera talent. Lastly, by practicing in a variety of prepared scenarios, students will get a chance to hone their communication skills as they experience the pressure of live studio productions resembling real-life professional environments.

DCMP2035A STUDIO PRODUCTION I (ستوديو الإنتاج 1)
Prerequisites: DCMP1001A & Min 24 Credits
This course introduces students to the principles and fundamental skills of studio production techniques and specialized equipment operations in a traditional television setup. Through a range of hands-on activities, students will also learn the specifics of roles such as director, producer, camera operator, jib operator, audio engineer, floor manager, PA runner, and on-camera talent. Lastly, by practicing in a variety of prepared scenarios, students will get a chance to hone their communication skills as they experience the pressure of live studio productions resembling real-life professional environments.

DCMP2040 FUTURE DIGITAL JOURNALISM & MEDIA
Prerequisites: DCMP1001, DCMP2010
In this course, students gain experience and practice in important areas while learning to create interesting stories using various digital channels. The course gives students the confidence to tell stories in any media and to learn any new technology or medium you might require for your journalism. Finally, the course explores what digital journalism entails: Is it unique from typical offline reporting? What are the values that endure? What is different? What does digitally native storytelling entail, as well as its benefits and drawbacks?

DCMP2040A FUTURE DIGITAL JOURNALISM & MEDIA (مستقبل الصحافة الرقمية والإعلام)
Prerequisites: DCMP1001A, DCMP2010A
In this course, students gain experience and practice in important areas while learning to create interesting stories using various digital channels. The course gives students the confidence to tell stories in any media and to learn any new technology or medium you might require for your journalism. Finally, the course explores what digital journalism entails: Is it unique from typical offline reporting? What are the values that endure? What is different? What does digitally native storytelling entail, as well as its benefits and drawbacks?

DCMP2045 STUDIO PRODUCTION II
Prerequisites: DCMP2035
This course builds upon the principles and fundamental skills discussed in Studio Production I. To this end, it teaches students advanced multi-camera setups and elaborates studio operations in a Virtual and Augmented Reality setup. Students are immersed in a practical environment where they will work in groups to create longer video projects. Students also learn how to develop collaborative skills, communicate using professional vocabulary, delegate tasks, and resolve creative conflict on the fly. In order to use every opportunity for the practical application of skills taught this course, students are required to cover at least one UDST campus event acting as a Television crew with clearly assigned roles. Lastly, this course gives students a chance to produce longer video pieces that can become part of their professional portfolios, which is important for future job placement.

DCMP2045A STUDIO PRODUCTION II (ستوديو الإنتاج 2)
Prerequisites: DCMP2035A
This course builds upon the principles and fundamental skills discussed in Studio Production I. To this end, it teaches students advanced multi-camera setups and elaborates studio operations in a Virtual and Augmented Reality setup. Students are immersed in a practical environment where they will work in groups to create longer video projects. Students also learn how to develop collaborative skills, communicate using professional vocabulary, delegate tasks, and resolve creative conflict on the fly. In order to use every opportunity for the practical application of skills taught this course, students are required to cover at least one UDST campus event acting as a Television crew with clearly assigned roles. Lastly, this course gives students a chance to produce longer video pieces that can become part of their professional portfolios, which is important for future job placement.

DCMP2050 STRATEGIC STORYTELLING
Prerequisites: DCMP2040
The course equips students with a theoretical and practical understanding of strategic/directed storytelling. It introduces background and analysis for how storytelling has evolved in the digital landscape, requiring communicators to rethink concepts of audience, engagement, use of trusted sources, and dynamic updating. Topics include Wonder, Wisdom and Delight, Storytelling vs. Strategic Storytelling, Communications and Human Nature, The Age of the Educated Consumer, Walt Disney: An Empire of Storytelling, Asymmetry, Branding in International Relations, Stories and the Infinite Game, Thought Leadership, Privacy, Crisis Simulation, The Age of Personalization, and Content Marketing Applied.

DCMP2050A STRATEGIC STORYTELLING (استراتيجية رواية القصص)
Prerequisites: DCMP2040A
The course equips students with a theoretical and practical understanding of strategic/directed storytelling. It introduces background and analysis for how storytelling has evolved in the digital landscape, requiring communicators to rethink concepts of audience, engagement, use of trusted sources, and dynamic updating. Topics include Wonder, Wisdom and Delight, Storytelling vs. Strategic Storytelling, Communications and Human Nature, The Age of the Educated Consumer, Walt Disney: An Empire of Storytelling, Asymmetry, Branding in International Relations, Stories and the Infinite Game, Thought Leadership, Privacy, Crisis Simulation, The Age of Personalization, and Content Marketing Applied.

Course Descriptions

DCMP2060 QATAR MEDIA LAW
The Qatar Media Law course empowers students with knowledge on the history of media laws in Qatar. Students develop an in-depth understanding of the current media regulatory framework for print, broadcast, and online media. They learn about the legal implications of defamatory statements and contempt of court in media reporting, copyright law, licensing, fair use, and the protection of creative works in the media. They develop knowledge on privacy law, data protection law, advertising law, confidentiality, the right to individuals' privacy vs the public interest and cybercrime. Through a diverse combination of lectures, case study analysis, and group discussions, students develop the necessary knowledge, skills, and attitude on legal issues that govern the media industry in Qatar.

DCMP2060 QATAR MEDIA LAW (قانون الإعلام القطري)
The Qatar Media Law course empowers students with knowledge on the history of media laws in Qatar. Students develop an in-depth understanding of the current media regulatory framework for print, broadcast, and online media. They learn about the legal implications of defamatory statements and contempt of court in media reporting, copyright law, licensing, fair use, and the protection of creative works in the media. They develop knowledge on privacy law, data protection law, advertising law, confidentiality, the right to individuals' privacy vs the public interest and cybercrime. Through a diverse combination of lectures, case study analysis, and group discussions, students develop the necessary knowledge, skills, and attitude on legal issues that govern the media industry in Qatar.

DCMP3005 DOCUMENTARY PRODUCTION
Prerequisites: DCMP2015
This course introduces students to the development production, and editing of compelling non-fiction films that engage and inform audiences. It encompasses the entire production process, from research, across a variety of production steps to post-production and distribution. Students learn how to become less reliant on specialized Audio/Visual tools as they re-purpose available location resources as storytelling elements and how to conduct complex semi-structured interviews. Lastly, through a combination of lectures, hands-on activities, screenings and discussions, students gain an understanding of the history, genres, and ethics of documentary filmmaking while they learn the technical skills required to create a professional-quality documentary film.

DCMP3005A DOCUMENTARY PRODUCTION (إنتاج الأفلام الوثائقية)
Prerequisites: DCMP2015
This course introduces students to the development production, and editing of compelling non-fiction films that engage and inform audiences. It encompasses the entire production process, from research, across a variety of production steps to post-production and distribution. Students learn how to become less reliant on specialized Audio/Visual tools as they re-purpose available location resources as storytelling elements and how to conduct complex semi-structured interviews. Lastly, through a combination of lectures, hands-on activities, screenings and discussions, students gain an understanding of the history, genres, and ethics of documentary filmmaking while they learn the technical skills required to create a professional-quality documentary film.

DCMP3010 PROJECT MANAGEMENT IN MEDIA
The Project management in media course empowers students with knowledge and skills on the key concepts, methodologies, and importance of project management in the media. Students develop an in-depth understanding of the adoption of agile and scrum methodologies in the media and entertainment industry. They learn about various roles within different types of media projects, such as for a movie or journalism. They develop knowledge of communication, risk management, completing tasks within specific timelines and deliverables. Students learn about problem solving and scope within media projects. Through a diverse combination of lectures, case study analysis, practical laboratory sessions and group discussions, students develop the necessary knowledge, skills, and attitude to effectively manage different types of media projects and develop a critical and reflective view of digital asset and media management.

DCMP3020 DATA JOURNALISM
Prerequisites: (DCMP2010 OR DCMP2010A), DCMP2015
This course empowers students with knowledge and skills on the journalists are using to create, use, and tell compelling stories with data. Students develop an in-depth understanding of advanced data collection techniques. They learn techniques for cleaning data and methods for managing incomplete datasets. They also develop knowledge on creating complex visualisations and building interactive visualizations that allow users to engage with the data using excel and other data tools. Students learn about the ethics of handling sensitive data, ensuring accuracy and maintaining integrity. Through a diverse combination of lectures, case study analysis, and practical laboratory sessions and group discussions, students acquire the necessary knowledge, skills, and attitudes to effectively tell stories using data.

DCMP3021 MEDIA TECHNOLOGY
In this course, students are introduced to the technological aspects of media. Starting from the physical theory of sound and image, students are exposed to a panorama of techniques and technology relating to digitization of media: from encoding and compression to storage and transmission. The course is delivered in the format of lectures followed by practical activities to apprehend the importance of technology, its performance, and its limitations.

DCMP3021A MEDIA TECHNOLOGY (تكنولوجيا وسائط الإعلام)
In this course, students are introduced to the technological aspects of media. Starting from the physical theory of sound and image, students are exposed to a panorama of techniques and technology relating to digitization of media: from encoding and compression to storage and transmission. The course is delivered in the format of lectures followed by practical activities to apprehend the importance of technology, its performance, and its limitations.

Course Descriptions

DCMP3032 HUMAN COMPUTER INTERACTION IN MEDIA
This course explores the multifaceted field of Human-Computer Interaction (HCI) within the context of digital communication and media production. It examines the interplay between humans and digital systems, focusing on creating effective and engaging interactions. Students leverage their foundational knowledge of graphic design and media production to explore a broad range of HCI principles. Topics covered include user research, information architecture, interaction design, usability testing, accessibility, and the impact of emerging technologies on user interaction. Through a blend of lectures, practical studio sessions, and hands-on assignments, students gain the skills to design, implement, and evaluate interactive digital experiences across diverse platforms, preparing them for dynamic roles in the digital media landscape.

DCMP3050 IMMERSIVE TECHNOLOGY & CONCEPT ART
In this course, students use a broad range of analogue and digital technology to express their artistic vision. Through case studies and analysis of seminal works, students experiment with a variety of mediums while searching for the best combination of analogue and digital technology to tell a particular story and deliver a desired message. Lastly, while developing their final projects, the students develop avenues for the audience to interact with their installations to actively encourage participation.

DCMP3050A IMMERSIVE TECHNOLOGY & CONCEPT ART (التكنولوجيا المتطورة والفن التصويري)
In this course, students use a broad range of analogue and digital technology to express their artistic vision. Through case studies and analysis of seminal works, students experiment with a variety of mediums while searching for the best combination of analogue and digital technology to tell a particular story and deliver a desired message. Lastly, while developing their final projects, the students develop avenues for the audience to interact with their installations to actively encourage participation.

DCMP4006 SOUND DESIGN & AUDIO PRODUCTION
Prerequisites: DCMP3021 OR DCMP3021A
This course delves into the advanced principles and practices of sound design in various audiovisual media, including film, computer games, and spatial installations. Students will explore the historical and theoretical foundations of sound in these media, understand the technical and creative processes involved, and apply this knowledge through problem-based and project-based learning approaches. By engaging in complex briefs and interdisciplinary projects, students will develop the skills necessary to manage their artistic and commercial profiles, while pushing their creative boundaries to produce innovative and professional sound designs.

DCMP4015 VIDEO & FILM PRODUCTION
Prerequisites: DCMP3021
In this course, students are introduced to the principles, process and software needed for video production. Students learn how to take a story concept and translate that into actual video production. Storyboarding, video production techniques, and editing with software form the core components of this course.

DCMP4015A VIDEO & FILM PRODUCTION (إنتاج الفيديو والأفلام)
Prerequisites: DCMP3021A
In this course, students are introduced to the principles, process and software needed for video production. Students learn how to take a story concept and translate that into actual video production. Storyboarding, video production techniques, and editing with software form the core components of this course.

DCMP4025 DIGITAL & ALTERNATIVE MEDIA PRODUCTION
Prerequisites: DCMP3021 OR DCMP3021A
What is digital media production? What are the most appropriate types of digital media to meet our needs? How do we deliver the digital media to our audience? What tools do we use to produce the various media types? In this course students learn to use digital media production tools to create digital imagery, audio, video, and extended reality (XR) media to meet a range of needs and audiences.

DCMP4040 TRANSMEDIA PROJECT
This course provides students with the skills necessary for the development and production of media projects that utilize multiple mediums to tell a story. Any successful campaign in today's competitive media market is rarely limited to only one distribution outlet, so students learn how to re-purpose already available or newly produced content to a specific platform. Students also learn how to navigate projects with active feedback from the audience and how to use those inputs to make informed project decisions. Lastly, the course provides a framework for students interested in cross-discipline projects to reach out to their peers in different industries with ideas for collaboration.

DCMP4045 3D MODELLING & VIRTUAL REALITY
Prerequisites: DCMP2025
This course introduces students to the fundamentals of 3D Modeling, surfacing, and animation. Students gain skills to model objects, visualize and light scenes, animate, and render short 3D movies that can be used in video games, architectural visualization, television and feature films. Topics covered include an introduction to the 3D Modeling and 3D sensing technologies, 360-degree cameras, VR apps and tools, and hands-on experience in creating 3D models.

DMET5010 CONTEMPORARY ISSUES IN DIGITAL MARKETING
Today's rapidly changing technology has increased the need for both breadth and depth of knowledge in digital marketing. This course provides knowledge in various digital marketing topics, including an in-depth analysis of current issues in the field. Participants explore present and emerging strategic marketing challenges in the global marketplace and the best practices for entrepreneurial and organizational transformation. Students gain knowledge from case studies, research articles and papers, activities, group discussions and presentations. They also learn to synthesize and integrate marketing concepts as well as to evaluate the effectiveness of an organization.

Course Descriptions

DMET5020 MARKETING MANAGEMENT & DIGITAL STRATEGIES

This course is designed to nurture a comprehensive knowledge of marketing management planning and best practices among participants. A deep analysis of the dynamic marketing environment is at the core of the course so that internal marketing plans are developed to achieve a strategic fit. The major topics of this course revolve around market analysis, buying behavior, branding, positioning, and the integration of multiple channels needed to achieve a sustainable competitive advantage by leveraging both traditional and digital media. In a few words, participants will navigate the evolving marketing landscape for the purpose of making informed decisions and drive business success in the digital world.

DMET5030 DIGITAL MEDIA & VIRAL MARKETING

Prerequisites: DMET5020

This course helps participants understand the dynamics of digital platforms and the ways customers become engaged and active. User-generated content in addition to creative content represent the core of that course. The main purpose is to help participants know how to achieve synergy from website traffic, social media, mobile marketing, blogging and other forms of digital communication that lead to positive viral marketing through online communication and channels. Participants will gain applied skills in creating shareable content, optimizing campaigns, and analyzing metrics for continuous improvement. The ultimate goal is leveraging the digital tools and media channels in order to achieve a wider customer reach and positive impact in the digital landscape.

DMET6010 E-COMMERCE & ENTREPRENEURSHIP

Prerequisites: DMET5030

In this course, participants will understand the importance of e-commerce in boosting the digital presence of startups. They will explore the fundamentals of online business, developing at the same time relevant strategies and tactics for successful entrepreneurship in the digital world. From creating a strong digital position to mastering e-commerce platforms, participants will gain practical insights into online marketing research, digital value creation, and effective online marketing. Greater emphasis will be placed on the integration of e-commerce with supply chain management, order and payment processes, and customer relationship management (CRM). The ultimate goal is to navigate the dynamic world of e-commerce and pave the road into a successful digital entrepreneur.

DMET6020 BUSINESS MODELS IN THE DIGITAL AGE

Prerequisites: DMET5030

Digital transformation is shaping the new landscape of a modern organization that looks more organic than being static. Therefore, participants will explore contemporary strategies that reshape traditional practices, blending technology and business modeling together. Disruptive technology is opening new opportunities in areas such as subscription services, platform businesses, dynamic pricing, and emerging topologies such as C2B, C2C, and many other ones that are fully covered in this course. Practical case studies and projects are the main tools through which participants will demonstrate the level of competencies they achieved in navigating the idiosyncrasies of digital business modeling as entrepreneurs or professionals.

DMET6091 ENTREPRENEURIAL MARKETING

The course is designed to prepare participants gain crucial conventional and digital marketing skills needed to cope with nowadays dynamic business environments. Participants will explore the connection of innovation and marketing in order to identify market opportunities, build a strong brand, and create effective yet efficient marketing campaigns with limited budgets. Through case studies, class forums, and simulations, participants will develop a comprehensive knowledge of consumer behavior, market research techniques, and digital marketing strategies and tactics, applicable to small and medium-sized businesses. Financial planning and budgeting are embedded in the course for the purpose of helping entrepreneurs identify and analyze the optimal funding sources for their new ventures and leverage future growth.

DMET6092 STRATEGIC BRAND MANAGEMENT

This course is structured to provide participants with the required skills and knowledge to build a strong brand with a clear identity and market position to achieve a sustainable competitive advantage. The major topics in this course start with the brand building process, brand management, brand equity, and finally running a brand audit. Building strong digital brands plays a crucial role in this course especially that the digital world is changing radically and quantumly and different models of consumer-based brand building will be explored as such. Through case studies and practical examples, participants will gain insights into successful branding strategies that are applicable to existing as well as new business ventures.

DMET6093 TECHNOLOGY-DRIVEN DECISION-MAKING

Prerequisites: DMET6020

Participants in this course will explore the connection of technology and decision-making in a dynamic business environment. Digital transformation in the form of cutting-edge technologies such as artificial intelligence, machine learning, internet of things (IoT), and business analytics impact on the decision-making process represent the major part of the course. Participants will gain a comprehensive knowledge of how technology is going to enhance strategic marketing, promotional strategies, pricing decisions, customer service, process design, and channel management. Case studies and practical projects are the main tools needed to achieve the learning outcomes of the course.

DMET6099 DIGITAL MARKETING & ENTREPRENEURSHIP THESIS

Prerequisites: BUSG5010 & Min 12 Credits

Complex problem solving in the field of digital marketing and entrepreneurship requires close attention to the issue in question. This course provides students with the opportunity to intensively explore the applied aspect of digital marketing and entrepreneurial strategies. Students analyze marketing and entrepreneurial concerns, define the research problem, evaluate methodological approaches in a chosen research area, and finally design and implement an appropriate research strategy. The outcome of this course is based on comprehensive independent research in the field of marketing and entrepreneurship.

Course Descriptions

DSAI2201 INTRODUCTION TO DATA SCIENCE & AI

Prerequisites: INFS1201

This course introduces broad foundational topics in data science. It examines various machine-learning algorithms and provides students with efficacious computational and statistical techniques. Topics include descriptive statistics, conditional probability, Naive Bayes' theorem, data munging, Matplotlib basics, machine learning algorithms, and introduction to reinforcement learning. The course is delivered through interactive lectures and practical lab sessions in which students are involved in utilizing the tools and methods used for data acquisition and cleaning, as well as analyzing, manipulating, and evaluating datasets and making predictions.

DSAI3201 MACHINE LEARNING

Prerequisites: INFS3102, MATH1030, MATH1050

This course provides students with both the theoretical underpinnings of machine learning and the practical know-how implementation of algorithm design techniques needed for solving real-life problems. Students develop a profound understanding of the theoretical relationship between algorithms as well as gain ML skills such as linear and logistic regression, regularization, probabilistic interference and SVMs. Python is the focal programming language used in this course, being a high-level and dynamic language suitable for performing machine learning tasks. The course is delivered through interactive lectures and practical lab sessions in which students are interactively involved in implementing and evaluating different machine learning algorithms.

DSAI3202 PARALLEL & DISTRIBUTED COMPUTING

Prerequisites: INFS3104

This course assists students to build solid theoretical as well as practical foundations in Parallel, Concurrent, and Distributed Programming. Parallel Programming prepares students to use popular Java frameworks and write parallel programs for multicore platforms. Concurrent Programming enables students to mediate efficiently and accurately the use of shared resources in parallel programs, and to learn how to use basic concurrency constructs in Java. Distributive Programming enables students to use multiple nodes in a data center as well as popular distributed programming frameworks for Java programs. Topics include task, functional, and loop parallelism; data flow synchronization; thread and locks; critical sections; actors; concurrent data structures; distributed map-reduce; client-server; programming; and multithreaded server. The course is delivered through interactive lectures and practical lab sessions.

DSAI3203 FUNDAMENTALS OF AI

Prerequisites: DACS2101

This course provides students with the fundamental knowledge and skills needed to engage in current and future Artificial Intelligence industries. The course explores the intelligent agent structure and its relationship with its environment. Students learn to compare search algorithms based on their accuracy, suitability, and efficiency. This course guides students in representing knowledge and reasoning using propositional and predicate logic. The course adopts one of the state-of-the-art logical programming languages to solve real world problems. This course helps students explain and solve planning problems, covering classical, heuristics, and hierarchical planning. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

DSAI3204 IOT APPLICATION DEVELOPMENT

Prerequisites: INFS3201

This course aims to provide students with the essential knowledge of IoT ecosystem and facilitate a quick engagement in IoT App development. The students are able to describe the IoT development lifecycle. This course covers the necessary knowledge to connect sensors with a microcontroller. Students use one of the state-of-the-art programming languages to add the business logic to the microcontroller. This course demonstrates the configurations between microcontrollers and Wi-Fi, cellular, or Gateway. This course illustrates the process of storing the sensors' readings on cloud and premises database. Students are able to build a mobile App that receives push-notifications based on the sensors' readings. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

DSAI3301 DATA ANALYSIS & VISUALIZATION

Prerequisites: DSAI2201, MATH1040

This course aims to provide students with a state-of-art techniques in data analytics and visualization. It equips the students with advanced visualization tools so they can perform data analysis and presentation of practical complex real-world projects. Topics include importing and storing data from Json files, Web, and SQL Databases; data visualization (Seaborn library); data estimation using Statsmodels library and its powerful built in Time Series Analysis Tools; and data clustering (unsupervised learning). Finally, the students use Tableau to create varied diagrams, dashboards, and stories and use them to draw business conclusions.

DSAI4101 APPLIED DEEP LEARNING & NEURAL NETWORK

Prerequisites: DSAI3201

The course provides theoretical underpinnings as well as practical training in deep learning. In this course, students are instructed to build, train, and apply fully connected deep neural networks (FCNNS). They are also trained to develop test sets and analyze bias/variance for building deep learning applications. The course offers mechanisms of diagnosing errors in a machine learning system and prioritizing strategies for mitigating errors. Students are able to implement and apply a variety of optimization algorithms, build a convolution neural network, including recent variations such as residual networks, and apply convolution networks to visual detection and recognition tasks.

DSAI4102 APPLIED DATA MINING

Prerequisites: DSAI3201

This course aims to provide students with the essential knowledge to analyze large data sets and discover rules that direct decision making process. This course covers the concepts and the applications of data mining. The course examines the necessary statistical principles for data mining like hashing and similarity. Students are able to format unstructured data into an abstract representation like, graph, vector, matrices or set. The course uses one of the state-of-the-art programming languages to solve and evaluate different pattern discovery and cluster analysis techniques. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

DSAI4103 ADVANCED BUSINESS ANALYTICS

Prerequisites: MATH1040, DSAI3301

This course exposes students to the best data analytics practices executed in business world. Students gain practical skills in building conceptual models of business, extracting and manipulating data using SQL code, applying statistical methods for data analysis, developing models for decision making, and effectively interpreting and presenting analytic results. Topics include predictive modeling techniques, cluster analysis, Monte Carlo simulation, optimization techniques, and results presentations strategies.

Course Descriptions

DSAI4104 FUNDAMENTALS OF IOT
Prerequisites: INFT2101
This course examines the fundamental concepts of IoT. Topics include sensing, actuation, basics of IoT networking, machine to machine communication, introduction to Arduino, introduction to Raspberry, cloud computing, fog computing, smart cities, connected vehicles, smart grid, industrial IoT, and data analytics. Students apply the techniques learned to real-life case studies.

DSAI4106 EMBEDDED SYSTEMS & IOT
Prerequisites: INFT2101
This course covers embedded systems and IoT for building devices that can sense and act on the physical world. Students are instructed to design, implement, and test microcontroller based embedded systems. Topics include CPUs and FPGAs, OS kernels, Contiki and Cooja Simulation, Arduino Shields and Libraries, Basic C programming for Arduino, Debugging, UART Protocol Synchronization, Electrical Components, Sensors and Actuators, WiFi Shield, Raspberry Pi, Linux Basics, Python for Raspberry Pi, GUI, Server Code, Network Libraries, and Camera Module.

DSAI4201 SELECTED TOPICS IN DATA SCIENCE
Prerequisites: DSAI4101
The course offers an in-depth study of selected topics and methods from various sectors in Data Science (DS), Artificial Intelligence (AI) as well as Machine Learning (ML) applications that include robotics, sports, education, health, and medicine. In this course, students are required to present selected papers that reflect the current and emerging methods and trends in DS, AI, and ML.

DSAI4202 INFORMATION RETRIEVAL
Prerequisites: DSAI3201
The course introduces the core concepts of modern text-based information retrieval systems. It equips the students with the theoretical and practical knowledge needed to design and implement an information retrieval system. The course introduces several state-of-the-art IR concepts such as efficient text indexing, Boolean and vector space retrieval models, evaluation, and interface issues; Web search including crawling, link-based algorithms, and Web metadata; text/Web clustering, classification; and text mining and image retrieval.

DSAI4205 AUTONOMOUS IOT
Prerequisites: DSAI3202
This course covers autonomous devices that connect and share information without human intervention. IoT includes robotics, autonomous vehicles, drones, and smart home devices. This course is designed with a focus on hands-on experience. In addition to the lectures, there are multiple laboratory sessions and demonstrations to implement the theoretical understanding of various concepts.

ECON1001 GLOBAL ECONOMIC CONCEPTS
This course provides an introduction to the field of global or international economics. Students learn how the world economy functions by first surveying the basic economic concepts that drive the global economy. Students then learn about the organizations and agreements that facilitate global effectiveness. There are also opportunities to reflect and debate on the major economic benefits globalization provides to people and nations, as well as the most serious problems it causes. The course is delivered in a practical way that even students with little background in business or economics can easily understand. Real-world case studies, current news, videos, lectures, and group activities ensure the course is relevant and valuable to students.

ECON2010 BUSINESS ECONOMICS
This course enables students to gain an understanding of microeconomics and macroeconomics and to be able to apply their principles for informed economic decision-making. The course focuses on best practices used to address economic decision-making by individuals, businesses, and governments under different market systems. Students learn the relationship of demand and supply in a microeconomic context and aggregate demand and supply in a macroeconomic setting. Students learn the concept of gross domestic product (GDP), the principles of international trade, and the application of monetary and fiscal policy and their impacts on GDP. In this course, students apply academic theory to practical learning situations using a problem-solving approach.

EDPR5010 TEACHING PRACTICUM
Prerequisites: EDUC5040, EDUC5050
The Teaching Practicum provides students with a structured work and career-related practical experience in teaching in a STEM/TVET learning environment. The purpose of the teaching practicum is to provide the graduate student with a breadth and depth of teaching experience in a practical setting in addition to career-related soft skills such as time management, self-discipline, and communication. The graduate student undertakes observational and experiential learning and engages in reflective practice while receiving feedback from faculty. Individual student practica varies. Each student completes lesson plans and incorporates active learning with formative assessments; design and deliver assignments and grading rubrics; and complete a variety of curriculum associated tasks relating to curriculum review, planning, and administrative tasks. In the course of Teaching Practicum, students will maintain a reflection journal and prepare a final presentation on their teaching experience.

EDUC5010 STEM/TVET PEDAGOGIES
The acquisition of STEM and TVET skills is vital for obtaining the necessary competencies to thrive in the modern digital economy. Furthermore, global economic agendas have emphasized the need for delivering these skills to accelerate economic growth and to remain resilient in the face of various crises. This course introduces students to key perspectives on teaching and learning that reinforce STEM/TVET competencies in four major domains: STEM/TVET knowledge, Thinking Skills, Multiliteracies, and Socio-emotional Intelligence. The course introduces different STEM/TVET pedagogies, example activities and tools to enable interactive learning and teaching, and technology enabled learning.

EDUC5020 CURRICULUM & INSTRUCTION IN A TECHNOLOGY-ENHANCED CONTEXT
The instructional context in which students learn can make a significant difference to their learning. Yet, the world of educational technology, both in research and in application, has been largely founded on and driven by cognitivist principles, which posit that much of learning involves absorbing “rules of the mind” that are free of context and can transfer to other contexts. This course addresses the connection between technology skills and the application of those skills in teaching and learning. Using sound instructional design principles, students learn how to fuse engaging educational learning environments with technology as a tool, as a learning partner, and as an integral part of the classroom that supports and facilitates the teaching and learning experience.

Course Descriptions

EDUC5030 ASSESSING EXPERIENTIAL LEARNING
Given formative and summative assessment, serve as the primary quality assurance mechanisms to demonstrate learning, it is of paramount importance in STEM and TVET to study their function, investigate their effectiveness, and reconsider their implications for the learning society as a whole. This course enables students to rethink models of assessment and intervention focused on sustainable learning to foster purposeful, valuable life-learning prospects. This course ensures students have the capacity to be effective assessors of learning for themselves and for others by examining the challenges and promises of using sustainable assessment strategies that develop informed judgment, construct reflexive learners, and form the becoming practitioner.

EDUC5040 REFLECTIVE PRACTICE IN TEACHING EDUCATION
Prerequisites: EDUC5010
When teachers engage in reflective teaching, they are dedicating time to evaluate their own teaching practice, examine their curricular choices, consider student feedback, and make the necessary revisions to improve student engagement and learning. This course enables students to prepare for research-informed teaching practice by learning to become reflective practitioners. Through the course, students develop skills in information gathering, data interpretation, and planning for future teaching practices. Reflective teaching involves examining one's underlying beliefs about teaching and learning and one's alignment with actual classroom practice before, during, and after a course is taught. Students think critically about their pre-service teaching, analyze evidence of effective teaching, and prepare for their Teaching Practicum.

EDUC5050 LEARNING & TRAINING WITH TECHNOLOGY LABS
Prerequisites: EDUC5020
Multimedia is broadly defined as learning from verbal and visual material. STEM/TVET Education is rich in a variety of digital technology applications and multimedia tools, laboratories, specialized technical facilities, simulation and virtual reality labs, and a wide range of learning spaces designed to replicate real-life industry. This course focuses on the design and application of multimedia learning and teaching environments in schools, as well as corporate training contexts. Students are introduced to principles of multimedia design based on cognitive theories and constructivist approaches to learning. Pedagogical aspects of digital technologies, computer-supported collaborative work, and the pitfalls of multimedia learning are addressed.

EDUC5060 FOUNDATIONS OF TVET & WORKFORCE DEVELOPMENT
TVET and skills development systems strive to fulfill the demands of all people seeking to learn relevant new skills to improve their career prospects, income, or professional status. By equipping individuals with knowledge, skills, and competencies linked to labor market demands, TVET systems are recognized as a crucial instrument for increasing employability, better job prospects, and improving social inclusion. This course focuses on the application of industry and occupational knowledge for instructional purposes to ensure an adequate supply of well-prepared TVET teachers for the country and the region. The course further provides students with a clear grounding in the philosophy of TVET and workforce development from a local, regional, and international perspective.

EDUC5070 INNOVATION IN STEM/TVET EDUCATION
Today's comprehensive career and technical education (CTE) programs incorporate cutting edge technologies, sustainable practices, and workforce preparation in collaboration with local business and industry, often while also preparing students for postsecondary study. Concurrently, it has become apparent that preparing students for the future STEM workforce requires the utilization of all of the educational and community resources at our disposal, including the design and delivery of high-quality STEM enrichment programs. This course examines different innovative practices in STEM and TVET education across the world including the use of examples from UNESCO-UNEVOC.

EFFL1001 EFFECTIVE LEARNING
Upon entry in the university academic environment, students are introduced to the expectations and study skills that are particularly relevant for their First-Year experience, including strategies and tools to support their studies and to give them a better understanding of themselves as learners. In this course, students become aware of the full range of campus resources available to support their learning, including multimedia tools to support time management, oral presentations and portfolio documentation. Through individual and group project work, students develop a greater appreciation of the need to define their educational and career goals clearly and to develop the habits and skills, which enables them to achieve these goals.

EFFL1002 APPLIED & EXPERIENTIAL LEARNING
In a university environment focused on applied technical education, a hands-on and applied understanding of experiential learning and how to be effective problem-solvers, communicators, planners, team members, and leaders is important. Students in this course learn to merge key software applications to collaboratively solve case studies in a team environment. Through group and individual project work, students learn to communicate in a group dynamic and use the software tools they need to be successful learners in an applied, experiential learning environment and throughout their program.

FBIO1000 BIOLOGY FUNDAMENTALS FOR HEALTH SCIENCES
This course introduces students to the fundamental principles of the cell, cell process, and genetics. Through applied and active learning, students learn concepts applicable to future studies in Health Sciences.

FBIO1001 FUNDAMENTALS OF HUMAN ANATOMY & PHYSIOLOGY
Prerequisites: FBIO1000
This course introduces students to the fundamentals of Chemistry for Health Sciences. Students gain a solid understanding of the periodic table, atomic and molecular structures, chemical reactions and equations, states of matter, systems of measurement, equations, organic chemistry, and acids and bases.

FCHE1000 FUNDAMENTALS OF CHEMISTRY FOR HEALTH SCIENCES
This course introduces students to the fundamentals of Chemistry for Health Sciences. Students gain a solid understanding of the periodic table, atomic and molecular structures, chemical reactions and equations, states of matter, systems of measurement, equations, organic chemistry, and acids and bases.

Course Descriptions

FENG1000 ENGLISH FUNDAMENTALS
Prerequisites: Min Score on AEP
This course is for students with English proficiency at the Basic User level of CEFR Low A2. It is taught using an integrated approach, and aims to improve students' ability to complete activities in English with competence. The course focuses on familiar and less familiar contexts of language used with topics related to home, school, lifestyle, and work. Success strategies are embedded within the course. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FENG1001 ENGLISH I
Prerequisites: FENG1000 OR Min Score on AEP
This course is for students with English proficiency at the Basic User level of CEFR High A2. It is taught using an integrated approach. It aims to improve students' ability to complete activities in English with competences. The course focuses on a range of language contexts, including unfamiliar and academic topics. Success strategies are embedded within the course. Upon course completion, students will have English proficiency at the Independent User level of CEFR Low B1.

FENG1002 ENGLISH II
Prerequisites: FENG1001 OR Min Score on AEP
Co-requisites: FREA1002, FWRI1002
This course is for students with English proficiency at the Independent User level of CEFR Low B1. The course is taught using an integrated approach, and aims to improve students' ability to complete activities in English with competence. The course focuses on academic contexts of language use, and incorporates topics related to information technology, business, engineering, and health science. Success strategies are embedded within the course. The course prepares students for their future program of studies. Students who complete this course are better able to write a variety of standardized, internationally recognized English assessment tools. Upon course completion, students will have English proficiency at the Independent User level of CEFR High B1.

FMAT1000 PREPARATORY MATHEMATICS
Co-requisites: FENG1001 OR Min Score on AEP
Students learn how to solve linear equations, analyze the equation of a line, and apply linear equations to solve rates and proportions. Students also demonstrate an understanding of graphing techniques, right angle triangle trigonometry, and algebraic manipulations.

FTEN1010 FOUNDATION ENGLISH I
Prerequisites: Min Score on AEP
Co-requisites: FTEN1011
This course is for students with English proficiency at the Basic User level of CEFR Low A1. It is taught using an integrated approach, and aims to improve students' spoken and written communication skills in English. It focuses on routine and familiar contexts of language used with topics related to self, home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A1.

FTEN1011 CONVERSATIONAL ENGLISH I
Prerequisites: Min Score on AEP
Co-requisites: FTEN1010
This communication course is for students with English proficiency at the Basic User level of CEFR Low A1. It aims to improve students' speaking production, interaction, phonology, and vocabulary for effective real-world spoken communication. It focuses on routine, and familiar contexts of language used with everyday topics related to self, home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A1.

FTEN1020 FOUNDATION ENGLISH II
Prerequisites: FTEN1010 & FTEN1011 OR Min Score on AEP
Co-requisites: FTEN1021
This course is for students with English proficiency at the Basic User level of CEFR Low A2. It is taught using an integrated approach and aims to improve students' spoken and written communication skills in English. It focuses on familiar and less familiar contexts of language used with topics related to home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FTEN1021 CONVERSATIONAL ENGLISH II
Prerequisites: FTEN1010 & FTEN1011 OR Min Score on AEP
Co-requisites: FTEN1020
This communication course is for students with English proficiency at the Basic User level of CEFR Low A2. It aims to improve students' speaking production, interaction, phonology, and vocabulary, for effective real-world spoken communication. It focuses on both familiar and less familiar contexts of language used, with everyday topics related to home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FTEN1022 ACCELERATED FOUNDATION ENGLISH II
Prerequisites: FTEN1010 & FTEN1011 OR Min Score on AEP
This course is designed for students at the Basic User Level of CEFR Low A2. It uses an integrated approach and aims to improve students' reading, listening, speaking and written communication skills in English. It focuses on familiar and less familiar contexts of language used with topics related to self, home, school, lifestyle, and work. Upon completion, students will have English proficiency at the Basic User level of CEFR A2. This course is only offered in Spring.

FTEN1100 GENERAL ENGLISH I
Prerequisites: FTEN1020 & FTEN1021 OR Min Score on AEP
This course is designed for students with English proficiency at the Basic User level of CEFR Low B1 and is taught using an integrated approach. The course aims to improve students' ability to communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User level of CEFR Mid B1.

FTEN1110 TECHNICAL ENGLISH I
Prerequisites: Min Score on AEP
This course is designed for students with English proficiency at the Basic User - Elementary level (CEFR Low A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology for communicating and interacting in English. The course focuses on both familiar and less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Basic User - Elementary level (CEFR High A2).

FTEN1200 GENERAL ENGLISH II
Prerequisites: FTEN1100
This course is designed for students with English proficiency at Independent User level of CEFR Mid B1 and is taught using an integrated approach. The course aims to improve students' ability to communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User level of CEFR High B1.

Course Descriptions

FTEN1210 TECHNICAL ENGLISH II
Prerequisites: FTEN1110
This course is designed for students with English proficiency at the Basic User - Elementary level (CEFR High A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology for communicating and interacting in English. The course focuses on less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User - Intermediate level (CEFR Low B1).

FTEN1310 TECHNICAL ENGLISH III
Prerequisites: FTEN1210
This course is designed for students with English proficiency at Basic User - Elementary level (CEFR High A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology so that they can communicate and interact in English. The course focuses on less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User - Intermediate level (CEFR Low B1).

FTEN1410 TECHNICAL ENGLISH IV
Prerequisites: FTEN1310
This course is designed for students with English proficiency at the Independent User -Intermediate level (CEFR Low B1) and is taught in an integrated approach. It aims to improve English skills in listening, speaking, reading, writing, grammar and phonology in professional contexts, so students can communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User - Intermediate level (CEFR Mid B1).

FTMA1100 TECHNICIAN MATHEMATICS I
This course strengthens students' mathematical skills relevant for workplace applications. Students learn about integers, roots, fractions, percent, decimals, metric and imperial measuring systems, and algebraic expressions. They also learn conversions for numbers and measurements and the fundamentals of equations.

FTMA1110 PREPARATORY MATHEMATICS I
This course provides students with foundational mathematical skills through the use of theoretical contexts and practical applications. Students are introduced to metric units of measurements, fractions, decimals, and percentage increases and decreases with technical applications. They complete practical assignments using metric measuring tools, and devices.

FTMA1200 TECHNICIAN MATHEMATICS II
Prerequisites: FTMA1100
This is the second of two mathematics courses designed to strengthen students' mathematical skills. Students continue to learn about equations. They also learn about ratio, proportion, exponents, polynomials, and factoring relevant for workplace applications.

FTMA1210 PREPARATORY MATHEMATICS II
Prerequisites: FTMA1110
This course furthers students' technical mathematical skills by building upon previously acquired theoretical and applied learning. This course involves technical calculations and formula manipulation. Students learn mathematical theory and perform practical applications related to rate, ratio and proportion, 2D technology measurement and computation, scientific notation, and Ohm's Law.

FTMA1310 PREPARATORY MATHEMATICS III
Prerequisites: FTMA1210
This course provides students with further technical mathematical skills by building on the applied theory and technical learning completed in previous technical mathematics courses. Students gain a solid understanding of 3D technology measurement and computation, fractions, electric circuits, and graphs and charts. Students are able to apply this mathematical knowledge to technical tasks in the naval field.

GARC1001 QATAR HISTORY & SOCIETY
History shapes beliefs, our understanding of events and their causes, and provides the context for future actions. This course familiarizes students with the major events and influences that led to the formation of Qatar as an independent state in 1971. Also covered is the formation of the Gulf Cooperation Council and how the complex diplomatic relations among member states influences the economic development of Qatar. Through the perspective of socio-political history, this course examines the modernization of Qatar as a richly diverse, multi-cultural society.

GARC2001 HUMAN DEVELOPMENT IN QATAR
This course will introduce students to the history and ongoing efforts for development in Qatar. The course also covers international and regional perspectives, putting Qatar's experience within the broader context of human development across the world.

GARC2001A HUMAN DEVELOPMENT IN QATAR (التنمية البشرية في قطر)
This course will introduce students to the history and ongoing efforts for development in Qatar. The course also covers international and regional perspectives, putting Qatar's experience within the broader context of human development across the world.

GARC2002 GLOBALIZATION & ENVIRONMENT
It is important that students understand the nexus between globalization and the environment as many of our contemporary challenges relate to it. This interdisciplinary course examines multiple perspectives on ecological, social, political, cultural, and economic drivers. Students embark on a multi-level analysis of diverse topics such as international cooperation, the global economy, science and technology and the context of Qatar. Along with participation in debates and quizzes, students plan and execute a small project related to one of the primary case studies that is explored throughout the semester.

HCMT1001 INTRODUCTION TO HEALTHCARE MANAGEMENT
Healthcare management professionals require a basic understanding of how the healthcare system operates and is managed. This course introduces students to the fundamental concepts and principles of healthcare management and the structure of the healthcare industry. It also explores how healthcare industry management has evolved over the last few decades, and in particular how its administration and regulation have developed.

HCMT2001 HEALTHCARE OPERATIONS MANAGEMENT
Prerequisites: HCMT1001
Healthcare professionals need to be prepared to work in large hospital environments. This course provides a basic understanding of how the healthcare system operates. Students are provided with the opportunity to explore the structure and organization of a large hospital and learn the roles of various specialists and departments. Part of this course involves several visits to the largest hospitals in Qatar so that the department functions can be contextualized.

Course Descriptions

HCMT3001 HEALTH POLICY
Prerequisites: HCMT2001
The goal of this course is to introduce students to the field of the concept of health policy and its analysis. Students are exposed to concepts and methods that provide a foundation for conducting policy analysis. Current policy topics in health care are used to demonstrate the practical relevance of policy analysis within the context of social determinants of health for healthcare managers.

HCMT3002 HEALTHCARE INFORMATION GOVERNANCE
Prerequisites: HCMT2001
Healthcare data is often personal and therefore subject to increasing legislation across the globe. Data must be protected, but it is also essential in the effective treatment of individual patients. This course explores the complex balance between access to individualized data and the need for data privacy. In addition, students examine the value of using broader data trends in a society to recognize emerging healthcare and treatment issues. This is a complex and fast-moving area which is increasingly at the cutting edge of emerging information technologies.

HCMT3003 HEALTHCARE QUALITY MANAGEMENT
Prerequisites: HCMT2001
Quality and performance improvement are critical elements to the success of a healthcare organization in the delivery of patient care and services. Students explore the concept of patient-centered care and the role of leadership in the success of quality and performance improvement initiatives. Quality improvement models are examined. This course also examines various models and mechanisms for patient communication and management.

HCMT3004 HEALTH ECONOMICS
Prerequisites: ECON2010, HCMT2001
Healthcare provision is one of every country's most important and complex financial responsibilities. This course examines the economic principles that impact healthcare and influence how health policies are designed. Features such as supply and demand, equity, efficiency, and market forces are explored along with financing systems, the complexities of the labor market, and the notion of health and social justice.

HCMT3005 HEALTHCARE INFORMATICS
Prerequisites: HCMT2001
In recent decades, technological advances have dramatically changed how healthcare is delivered. This course examines the various uses of information technology within the healthcare industry, including the organization and analyses of health records to improve patient care. Central to this course is the exploration of the electronic recording of patients' status and treatments in a secure environment with specific access controls so that only authorized people can obtain this data. Healthcare informatics also relates to the scheduling or allocation of resources and inventory to medical staff and patients, including bed and room spaces, treatment rooms, specific types of treatment, and patient food and diet preferences.

HCMT3006 HEALTHCARE RISK MANAGEMENT
Prerequisites: HCMT2001
Healthcare settings and their grounds pose certain risks and hazards to both staff, patients, and visitors. In this course, students develop a systematic skill set in identifying, classifying and assessing these risks. Students also learn methods of risk mitigation that can be used in various situations and locations. At the end of the course, students undertake a risk assessment in a real-world healthcare setting environment and prepare a report to evaluate and minimize these risks.

HCMT3007 RESEARCH IN HEALTHCARE MANAGEMENT
Prerequisites: RSST3001
The ability to collect, evaluate, and put to good use current health sciences research is an essential skill for all healthcare professionals. This course investigates the importance of research in all areas of healthcare. In addition, students learn the international regulations and best practices in undertaking human subject research.

HCMT4008 TRENDS IN HEALTHCARE
Prerequisites: HCMT3003
In our rapidly changing world, it is important that healthcare managers keep up to date with current trends. In this course, students are expected to work individually and in groups to identify and examine contemporary trends in healthcare. Students are provided with the opportunity to conduct research into key trends, then present and display their findings in a poster and to make a formal presentation.

HCMT4009 CAREER PLANNING IN HEALTHCARE MANAGEMENT
Prerequisites: HCMT2001
This course is designed for undergraduate students pursuing career development in healthcare management. It focuses on career planning and management skills needed in the dynamic healthcare industry. Students explore various career paths within healthcare management and leadership. They apply necessary competencies and develop action plans for successful careers. Students gain awareness of the importance of lifelong learning after graduation.

HMAT1000 MATHEMATICS FOR HEALTH SCIENCES
Prerequisites: Min Score on AMP
Co-requisites: FENG1002 OR Min Score on AEP
This course introduces fundamental mathematics concepts necessary for health science. It provides an understanding of linear, quadratic, exponential, and logarithmic equations and familiarizes students with descriptive statistics terminology, as well as the measurement systems, dosages, and concentration calculations.

HMED1000 MEDICAL TERMINOLOGY
Co-requisites: ACAD1000
This course introduces students to the language of medicine. Students gain an understanding of basic elements, the rules of building, and analyzing medical words, and medical terms associated with the body as a whole. The focus of the course is on accurate spelling and pronunciation of terms and building knowledge of basic medical vocabulary with an emphasis on prefixes, suffixes, roots, and combining vowels. Anatomical, physiological and pathological terminology are covered and applied in the context of electronic health records. In addition to medical terms, common abbreviations applicable to each system are interpreted.

HRMG1001 PRINCIPLES OF HUMAN RESOURCE MANAGEMENT
A deep understanding of a field of study is not possible without a mastery of the basic principles. This course provides a foundation to the study of human resource management (HRM) and introduces students to the human resources (HR) functions that are studied in detail throughout the HRM degree program. This course is designed to enable students to determine specific areas of interest that may help to direct them in selecting work placements, projects, and future career directions.

Course Descriptions

HRMG2020 EMPLOYEE RELATIONS
Good employer-employee relations are essential to the smooth operation of any organization. This course provides an overview of various theories, methods, and concepts involved with building, maintaining, and improving positive employer-employee relations within the workplace. The course explores topics such as the alignment of organization strategies with employee relations strategies, the grievance process, dispute resolution, and international trends which may impact the employer-employee relationship. Through practical application techniques such as analyzing case studies, role plays, and debates, the course provides students with an opportunity to develop an understanding of the connection between employee engagement and employee productivity.

HRMG3010 HUMAN RESOURCE PLANNING & SELECTION
Prerequisites: HRMG1001
This course introduces students to the principles, practices and strategies of staffing involved with planning the human resource (HR) function in today's diverse workplace by resourcing plans support. Students build connection between human resources planning and acquisition functions of human resource management. Further, the students learn reliability and validity of performance predictors and demonstrate various talent acquisition techniques and practices to attract talented individuals using digital channels, case studies, and application assignments.

HRMG3020 QATAR EMPLOYMENT LAW
This course explores the legal principles and statutory regimes governing the relationship between employees and employers in Qatar. The course includes a review of the current and expected changes to the legal landscape and focuses on developing policies and procedures to ensure compliance by a public, private or quasi-governmental organization.

HRMG3030 OCCUPATIONAL HEALTH & SAFETY
In this course, students are introduced to current standards and practices related to safety, health, and wellness. Students learn methods to effectively manage a disability claim from initial injury, through return to work, to the creation of modified work programs. The student analyzes current organizational policies and/or procedures related to absence management, disability management and/or employee wellness.

HRMG3040 PERFORMANCE MANAGEMENT
Prerequisites: HRMG3010
This course focuses on the importance of an effective performance management system within organizations. The course reinforces the concept that performance management is an ongoing process of planning, facilitating, assessing, and improving individual and organizational performance. Students explore the value and purpose of performance management. Students learn about the performance management process and strategic planning, setting performance standards, effective performance appraisals and employee development plans, performance coaching, and team performance. Students then have the opportunity to apply various performance management practices and techniques using case studies and application assignments.

HRMG3050 TRAINING & DEVELOPMENT
Prerequisites: HRMG1001
This course aims to provide students with knowledge and experience of training needs analysis in relation to organizational objectives, training design, methods and considerations of delivery implementation as well as the evaluation of processes and outcomes. This course encourages students to develop innovative ideas and engage with learning and development solutions that arise from training due to the use of technology and social networks to implement their learning to the workplace. In this course, students also identify development methods, evaluation and career development plans available to organizations as a tool to increase employee engagement.

HRMG4010 INTERNATIONAL HUMAN RESOURCE MANAGEMENT
Prerequisites: HRMG1001, MGMT2010
The course examines the evolving nature of international human resource management. Students are exposed to human resource practices in an international context. In particular, this course focuses on distinguishing between domestic and international HRM, global organization structures, management of cultural diversity in organizations, staffing and talent management in a global context, global leadership development, compensation and benefits management in the international enterprise and performance management of international assignees.

HRMG4020 COMPENSATION & BENEFITS
Prerequisites: HRMG1001
This course explains the processes and techniques involved in planning, designing, and administering an organization's compensation and benefits strategy. Students develop skills and knowledge to interpret a pay structure by conducting a thorough job analysis, developing a pay structure based on the job description, job specification and conducting a job evaluation. Students evaluate compensation and rewards and distinguish between the pay discrimination and wage gap. The students also consult historical salary surveys to learn how to apply the data to various scenarios through case studies and application assignments.

HRMG4030 ORGANIZATION DESIGN & DEVELOPMENT
Prerequisites: MGMT4010
This course introduces students to the practices and the processes that support organizations to configure and align the organization's structure to its competitive environment. Students apply methods for diagnosing organizational change and developing strategies to incorporate new design; propose suitable organizational interventions based on the challenges faced during the transformation. Students learn how to improve the organizational performance using organizational design techniques and interventions such as leadership, group dynamics, training, culture, and employee wellbeing to ensure sustainability.

HRMG4040 ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT
Prerequisites: HRMG3010, MISY2010
Human resources is undergoing a massive transformation in the wake of the Big Data revolution. Artificial Intelligence (AI) is reinventing human resources in a way not seen before by automating the repetitive task of hiring, onboarding, learning, and development, allowing HR teams to focus more on creative and strategic work. This course explains the role of artificial intelligence in various HR functions. Students explore the types of artificial intelligence technologies that could support/automate the HR functions and also the challenges in adopting AI technology.

Course Descriptions

HRMG4081 PSYCHOLOGY IN HUMAN RESOURCE MANAGEMENT

Prerequisites: MGMT2010

This course develops an understanding of psychology in Human Resource Management. Students engage in exploring contemporary workplace issues and the role industrial psychologists play in addressing such issues. Topics include, the history of industrial psychology, the impact of job design on employee behavior and performance, leadership's role in creating an engaging work environment, motivational theories used by industrial psychologists to enhance employee commitment and performance, and most importantly, the process of developing a performance-based culture without compromising on employee's work-life balance.

HRMG4083 LABOR FORCE ENGINEERING

Prerequisites: HRMG3010

This course offers students an opportunity to analyze current and potential workforce requirements in a national or an international business and identifying workforce gaps against future needs. Acting as a strategic human resource business partner, students conceptualize and apply practical Human Resources Management (HRM) skills throughout this course. Students analyze the short term and long-term development plans to enhance the HR planning process. Based on this information, and an appraisal of the current Human Resources (HR) and workforce positioning of the company, students interpret key contemporary labor market trends and develop an executive report with an implementation plan to present to the business.

HRMG4084 MANAGING DIVERSITY & INCLUSION

Prerequisites: MGMT2010

This course examines the importance of workforce diversity in gaining competitive business advantage. Students are exposed to workplace behaviors and the trends in creating a workplace that is conducive to employees' well-being. Students appreciate the concept of diversity and inclusion, and analyze the key trends and changes that have shaped the demand and supply of labor in recent years. In addition, students examine the impact of inequality on organizational performance, employee engagement and work culture in general.

HRMG4091 CREATIVITY & INNOVATION IN THE WORKPLACE

Prerequisites: MGMT2010

Students are introduced to creativity and innovation in a business context. Students explore strategies for implementing creative thinking for the purpose of innovation in the workplace. To enhance creativity, students participate in a self-discovery process; including the exploration of employable competencies and the development of a growth versus fixed mindset. Students are challenged to think beyond the traditional human resource functions and to apply creative and innovative techniques. Throughout the course; theories, issues and practices are explored focusing on real world implications.

HRMG4092 HUMAN RESOURCE ANALYTICS

Prerequisites: HRMG3040

This course introduces students to human resource analytics and the use of human resource metrics to improve decision making. This is a hands-on course that equips students to align HR metrics to business strategy by identifying and applying basic data analysis. Students learn how to apply descriptive analytics to identify and recommend solutions to business issues and decisions in: recruitment, selection, onboarding, retention, performance management, training & development, and succession planning. Students measure the ROI (Return on Investment) and create HRM dashboards that are aligned to business strategy.

HRMG4093 STRATEGIC HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG3010

This course is designed to provide students with an understanding of the principles and practices of strategic human resource management in organizations. Students gain a practical knowledge of human resources strategy and the role of the HR practitioner as strategic partner to the business. Students have an opportunity to apply their own decision-making skills through class discussion and participation; through the examination of current theory, students are provided with an initial understanding of how strategic management of human resources relates to other organizational functions. Students further investigate how core competencies and competitive capabilities are developed at the individual, group, and organization levels.

HRMG4094 QUALITY PRACTICES IN HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG3040

This course examines the relationship between human resource management practices and the philosophy of continuous improvement in system and processes that leads to an organization's performance. Students are exposed to continuous improvement techniques in HR to evaluate organizational strategy and performance. Students learn the application of Six Sigma approach, 5S Model, theory of constraint model, and other quality control tools in aligning the HR functions with organization's strategic objectives and building the organization culture that is based on a philosophy of continuous improvement.

HRMG5010 CONTEMPORARY ISSUES IN HUMAN RESOURCES

Today's rapidly changing workplace has increased the need for both breadth and depth of knowledge in human resource management. This course provides knowledge in human resource topics, including an in-depth analysis of current issues in the field. Students explore present and emerging strategic human resource challenges in the global marketplace and the best practices for individual and organizational transformation. Students gain knowledge from case studies, experiential exercises, activities, group discussions and presentations. They also learn to synthesize and integrate human resource concepts as well as to evaluate the effectiveness of an organization.

HRMG5020 PEOPLE ANALYTICS

Current advances in analytics technologies have created tremendous opportunities for human resource specialists. This course explores the use of data to improve how organizations manage people. It aims beyond human resource analytics to include workforce analytics and customer insights to drive organizational performance. Students expand their data fluency by exploring how Big Data can be managed (mismanaged) and used (misused) to inform people-related issues, opportunities, and decisions. Through a variety of methods, students apply analytic skills, tools, and techniques to diagnose the dynamics that influence individual, team, and organizational performance and create action-oriented recommendations.

HRMG5030 LEADING STRATEGIC HR TRANSFORMATION

Prerequisites: HRMG5010

Change is the one constant in today's marketplace, and human resource specialists must be able to cope with transformation. This course is designed to equip students with strategic HR tools that add value and insights to an organization and align HR initiatives with business strategy. The course focuses on the theory and practice of HR transformation and on the creation of vertical and horizontal alignment of strategies to improve HR decision-making, processes, systems, and best practices in value creation for stakeholders. Students develop these skills through case studies, discussion boards, webinars, and lectures.

Course Descriptions

HRMG5040 DIGITAL HUMAN RESOURCES
Prerequisites: HRMG5010
New digital technologies have the potential to revolutionize HR departments around the world. This course explores revolutionary and disruptive technological trends that go beyond conventional HR functions. Students have an opportunity to examine current technologies such as Artificial Intelligence (AI), HR shared service centers, Human Resource Information Systems (HRIS), and others to understand how they enhance and empower HR functions. Students gain practical insights through real-world case studies, applied tools, and a thorough study of best practices to develop and execute digital HR strategies to achieve a competitive advantage in this fast-changing digital age.

HRMG5099 HUMAN RESOURCE MANAGEMENT THESIS
Prerequisites: BUSG5010
Complex problem solving in the field of human resources requires close attention to the issue in question. This course provides students with the opportunity to intensively explore the applied aspect of human resource strategy. Students analyze HR concerns, define the research problem, evaluate methodological approaches in a chosen research area, and finally design and implement an appropriate research strategy. The outcome of this course is based on comprehensive independent research in the field of HRM.

HRMG6081 GLOBAL TALENT MANAGEMENT
Prerequisites: HRMG5010
Doing business in a globalized world requires a specialized worldview and skill set. This course is designed to explore human resource functions in multinational organizations operating globally. In this course, students evaluate the challenges associated with the implementation of global talent management strategies and policies in a dynamic environment. They reflect on the complex set of environmental and organizational factors that affect talent management in multinationals, applying HR strategies for employee development, engagement, and retention that address diversity and inclusion issues. Through a variety of methods, students engage in consultations involving legal challenges, HR functions, and management of virtual talent in multinational organizations.

HRMG6082 CULTURE & DIVERSITY MANAGEMENT
Geography is no longer a barrier to employment, and human resource departments must be able to accommodate the needs of economic migrants. In this course, students critically assess the models, theories, and frameworks of cross-cultural management and apply tools to formulate HR strategies in a multi-cultural setting. Students also analyze the opportunities and challenges of diversity and inclusion in the workplace. Through class discussions, self-reflections, case studies, and critical thinking applications, students explore the global mindset and gain advanced knowledge of cultural and diversity issues to prepare them to lead in dynamic, multicultural organizations.

HRMG6083 MANAGING CHANGE IN MULTINATIONAL CORPORATIONS
Prerequisites: HRMG5010
The international business environment is changing rapidly. This course is designed to address the strategic importance of managing change globally. This course provides students with both the conceptual framework and the practical skills needed to design, implement, and evaluate effective change in multinational corporations. Through a variety of methods, students develop skills to analyze change in an international context; manage resistance to change and serve as a global change agent.

HRMG6091 ORGANIZATIONAL DEVELOPMENT & CHANGE
Prerequisites: HRMG5010
As the business world changes, organizations must adapt or stagnate. This course discusses advanced organization development (OD) tools and methods to increase organization effectiveness. It offers comprehensive OD knowledge related to models, change management and interventions for organization transformation. Through a variety of methods, students evaluate theories and apply practical problem-solving techniques with OD interventions to address real-world challenges and implement organizational change.

HRMG6092 TALENT MANAGEMENT & DEVELOPMENT
Finding the right person for the right position is a constant challenge for every human resources department. In this course, students analyze human resource practices and approaches to identify talent and manage employee performance. In addition, students are exposed to HR analytics to attract, develop, and retain talent in organizations. Students apply research as well as explore talent management techniques through case analysis, lectures, and real-world scenarios. The course also provides the opportunity for students to develop core competencies to drive employee engagement and performance through coaching.

HRMG6093 DESIGN THINKING & CREATIVITY
Design thinking, creativity, and innovation are essential human resource competencies to help deal with uncertainty, complexity, and problems within the workplace. In this course, students explore the concept of design thinking to enhance creativity and learn human-centric approaches to idea generation to build innovation in an organization. This course discusses theoretical concepts and models to incorporate innovative hands-on approaches to prototyping, stimulating creativity, and testing. The course provides students with an opportunity to understand industry best practices by using case studies and shared industry successes.

HSDH1270 PRINCIPLES & ISSUES IN DENTAL HYGIENE
Prerequisites: BIOL1030, BIOL1031, BIOL1110, CHEM1040, CHEM1041
Dental hygiene is a complex, human-centered field of study. This course introduces students to the profession of dental hygiene by examining current concepts of practice. Exploring relevant issues, with an emphasis on roles, professional communication, department responsibility, accountability, and behavioral foundations for health promotion, students gain an understanding of their social, ethical and legal obligations as health care professionals.

HSDH2120 HEAD & NECK ANATOMY
Prerequisites: BIOL1210
Dental hygiene professionals need to be aware of the complex anatomy of the head and neck. Building on the concepts introduced in foundation science courses, this course introduces students to the anatomical and physiological features of the head and neck region. The course focuses on the healthy/normal continuum that provides the foundation for clinical dental hygiene practice as well as for further study.

HSDH2130 DENTAL ANATOMY
Prerequisites: BIOL1210
Dental hygiene professionals must have a deep understanding of dental anatomy. In this course, students learn in detail crown and root anatomy as well as morphology and occlusion. Students identify features of crown and root morphology that relate to the identification and differentiation of teeth. They also learn occlusal relationships and how these may affect the provision of dental hygiene care.

Course Descriptions

HSDH2140 ORAL HISTOLOGY & EMBRYOLOGY
Prerequisites: BIOL1210
A deep understanding of oral histology & embryology is essential for all dental hygiene professionals. This course builds on the concepts introduced in foundation science courses and continues to provide the basis for clinical dental hygiene practice as well as for further study. Students are provided with the opportunity to learn the sequence of embryological development and the principles of oral histology of the soft and hard tissues and associated structures.

HSDH2210 GENERAL DENTISTRY INTRODUCTION
Prerequisites: HSDH2120, HSDH2130, HSDH2140
A solid foundation in the basic principles of dentistry is essential to success in this field of study. This course introduces students to the basic concepts and principles of dental materials used in the prevention and treatment of dental diseases. Students are provided with the opportunity to explore the interaction between dental materials and the surrounding oral tissues that impact instrumentation use. Students also learn the tools and materials available to treat and prevent specific dental problems.

HSDH2240 PERIODONTOLOGY I
Prerequisites: HSDH2120, HSDH2130, HSDH2140
Understanding dental-related diseases is an important part of dental hygiene. This course explores fundamental concepts related to periodontal diseases, focusing on the classification, epidemiology, etiology, risk factors, pathophysiology, clinical characteristics, and therapy of periodontal disease. The course emphasizes the value of students' ability to recognize periodontal problems and recommend appropriate treatment.

HSDH2250 INTRODUCTION TO DENTAL HYGIENE
Prerequisites: HSDH2120, HSDH2130, HSDH2140
Co-requisites: HSDH2260
A solid foundation in the basic principles of dental hygiene is essential to success in this field of study. This course is an introduction to dental hygiene theory and the process of care. It provides students with the opportunity to explore concepts such as communication, team membership, delivery of care, assessments, implementation, self-evaluation, and evaluation of theoretical knowledge. These concepts are later reviewed and expanded upon in each subsequent Clinical Theory course. They are also practiced in a clinical setting within the Clinical Practice courses.

HSDH2260 DENTAL HYGIENE INSTRUMENTATION
Prerequisites: HSDH2120, HSDH2130, HSDH2140
Co-requisites: HSDH2250
Dental Hygiene is a highly technical field requiring proper knowledge of instrumentation. In a supervised pre-clinical setting, this course provides the foundation for the necessary instrumentation skills and procedures. Practice is integrated and applied to mannequins using tools and operatories. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH2280 RADIOLOGY I
Prerequisites: HSDH2120, HSDH2130, HSDH2140
Radiology is an integral part of dental hygiene practice. This course introduces students to the basic principles of radiation physics, generation, and biology, as well as to the uses of x-radiation. Students also learn the history of radiation and x-rays and appropriate safety measures.

HSDH2350 FUNDAMENTALS OF CLINICAL DENTAL HYGIENE
Prerequisites: HSDH1270, HSDH2250, HSDH2260
The ability to put dental hygiene theory into practice is crucial for the development of student competence. This course provides a pre-clinical setting where students are mentored as they learn the increased complexity of dental hygiene practice regarding assessment, diagnosis, implementation, evaluation, professionalism, health, and safety. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH2390 COMMUNITY ORAL HEALTH I
Prerequisites: HSDH2250
Oral hygiene is a societal concern. In this course, students study the health/disease continuum from the viewpoint of various community groups. Included are concepts within community dental health, oral health delivery modes, and current concepts of health education, health promotion, and partnerships with community groups. The course further explores preventative strategies and practices within public health, the relationship between literacy and health, and various factors that influence the need, demand and utilization of dental services within communities and the barriers clients face in accessing them.

HSDH3100 ORAL PATHOLOGY
Prerequisites: HSDH2240, BIOL1310
Comprehensive dental hygiene care requires that dental hygienists are skilled in recognizing oral pathologies. This course emphasizes the significance, recognition, and accurate description of the clinical appearance of intra oral mucosal lesions. Students are provided opportunities to learn and apply the processes and terminology used for recognizing and accurately recording oral lesions. The process of differential diagnosis of oral pathology is also considered, including other common soft tissue lesions, submucosal oral pathologies, common lesions of the face, and abnormalities of the tooth.

HSDH3150 DENTAL HYGIENE THEORY I
Prerequisites: HSDH2350
Co-requisites: HSDH3160
This course is a continuation of HSDH2250, HSDH2260, and HSDH2350. See these course descriptions for details. In this course, all phases of the dental hygiene process, theory, and instrumentation skills and procedures are further developed as students gain a more sophisticated understanding of unhealthy and abnormal oral conditions.

HSDH3160 DENTAL HYGIENE PRACTICE I
Prerequisites: HSDH2350
Co-requisites: HSDH3150
The ability to put dental hygiene theory into practice is crucial for the development of student competence. Building on knowledge gained in HSDH2260 & HSDH2350, this course focuses on applying clinical theory and psychomotor skills to clinical practice using colleague students at the UDST Dental Clinic. In a pre-clinical setting, students are mentored as they learn the increased complexity of dental hygiene practice regarding assessment, diagnosis, implementation, evaluation, professionalism, health, and safety. Students are evaluated on key performance indicators such as the transfer of theoretical knowledge to practice, articulation of rationale, and accurate, legible documentation.

Course Descriptions

HSDH3181 RADIOLOGY II
Prerequisites: HSDH2280
Radiology is an integral part of dental hygiene practice. In this course, students learn the theory behind the basic techniques of radiography for application in clinical dental hygiene, including safety measures. Students then expand on the basic radiology concepts and focus on the interpretation of oral radiographs. Concepts, principles, and applications of advanced and specialized radiography techniques are also discussed.

HSDH3200 PHARMACOLOGY & PAIN MANAGEMENT
Prerequisites: HSDH3150
Pharmacology is an important aspect of dental care delivery. In this course, students learn the principles of pharmacology and drug therapy. The specific drugs and techniques of pain control used in dentistry are also discussed in detail, as well as other various families of drugs that impact the delivery of dental treatment.

HSDH3241 PERIODONTOLOGY II
Prerequisites: HSDH2240
Understanding dental-related diseases is an important part of dental hygiene. This course builds on concepts and skills covered in Periodontology I and focuses on etiologic and systemic factors for periodontal disease, host immune response to periodontal diseases, the occurrence of gingivitis and periodontitis, the healing process of periodontium, and the use of chemotherapeutics in periodontal therapy.

HSDH3250 DENTAL HYGIENE THEORY II
Prerequisites: HSDH3150, HSDH3160
Co-requisites: HSDH3260
This course is a continuation of Dental Hygiene Theory I. In this course, all phases of the dental hygiene process, theory, and instrumentation skills and procedures are further developed as students gain a more sophisticated understanding of unhealthy and abnormal oral conditions. More specifically, the course exposes students to a deeper understanding of roles within a dental health team including planning, communication, and evaluation.

HSDH3260 DENTAL HYGIENE PRACTICE II
Prerequisites: HSDH3150, HSDH3160
Co-requisites: HSDH3250
This course is a continuation of Dental Hygiene Practice I. In this course, all phases of the dental hygiene process are further developed as students gain more experience with unhealthy and abnormal oral conditions. Students practice related skills on adult and pediatric clients in a closely supervised clinical setting. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH3350 DENTAL HYGIENE THEORY III
Prerequisites: HSDH3200, HSDH3250, HSDH3260
Co-requisites: HSDH3360
This course is a continuation of Dental Hygiene Theory I and II. Through case studies and case presentations, students continue their study and application of theories of client assessment, planning, implementation, and evaluation. This course also introduces theories of dental imaging and local anesthetic.

HSDH3360 DENTAL HYGIENE PRACTICE III
Prerequisites: HSDH3200, HSDH3250, HSDH3260
Co-requisites: HSDH3350
This course is a continuation of Dental Hygiene Practice I and II. Through case studies and hands-on work with selected clients, students continue their study and application of aspects of dental hygiene assessment, planning, implementation, and evaluation. Students are provided with the opportunity to apply theories of dental imaging and local anesthetics. The course also introduces the fundamentals of case presentation. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH3371 DENTAL HYGIENE PRACTICE MANAGEMENT
Prerequisites: HSDH1270
Career success in the dental care profession requires some knowledge of practice management. In this course, students study career aspects of dental hygiene, including practice settings; educational opportunities; organizational, financial, and marketing initiatives; and economics. Students learn the promotional guidelines of regulatory authorities and the legal and ethical requirements for dental hygiene practice. Current trends and issues in dental hygiene are discussed, along with the structure and function of professional associations and the regulatory authority. The course also examines practitioner registration, scope of practice, quality assurance, and political processes.

HSDH4150 DENTAL HYGIENE THEORY IV
Prerequisites: HSDH3350, HSDH3360
Co-requisites: HSDH4160
This course is a continuation of the previous Dental Hygiene Theory courses. Students continue their study of assessment, dental hygiene health care planning, implementation, evaluation, and clinical environment considerations. The course emphasizes individualized comprehensive care of elderly clients and clients with special needs.

HSDH4160 DENTAL HYGIENE PRACTICE IV
Prerequisites: HSDH3350, HSDH3360
Co-requisites: HSDH4150
This course is a continuation of previous Dental Hygiene Practice courses. Students gain comprehensive clinical skills required for periodontal care within the scope of dental hygiene practice and integrate them with previously acquired knowledge and skills. The course emphasizes individualized comprehensive care of elderly clients and clients with special needs. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH4190 COMMUNITY ORAL HEALTH II
Prerequisites: HSDH2390
Oral hygiene is a societal concern. This course builds on the knowledge and skills learned in Community Oral Health I, expanding on concepts related to community dental health, oral health delivery modes, current concepts of health education, health promotion, and special needs requirements. Students build inter-disciplinary partnerships, design and implement a community oral health initiative, and give public presentations to influence change within the population.

Course Descriptions

HSDH4250 DENTAL HYGIENE THEORY V
Prerequisites: HSDH4150, HSDH4160
Co-requisites: HSDH4260
In this course, the knowledge, skills, and theories learned in all previous Dental Hygiene courses are integrated into a comprehensive clinical dental hygiene care experience. The course builds on the previous courses in guiding students through the transition from the classroom into the hospital and public/private dental practice settings.

HSDH4260 DENTAL HYGIENE PRACTICE V
Prerequisites: HSDH4150, HSDH4160
Co-requisites: HSDH4250
In this course, knowledge and skills learned in all dental hygiene courses are integrated into a comprehensive clinical dental hygiene care experience. Students work in a dental clinical setting to apply the full scope of dental hygiene care. The course builds on previous courses in guiding students through the transition from the classroom into the hospital and public/private dental practice settings. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH4290 COMMUNITY ORAL HEALTH III
Prerequisites: HSDH4190
Oral hygiene is a societal concern. This course builds on the knowledge and skills learned in Community Oral Health I and II, expanding on concepts related to community dental health, oral health delivery modes, current concepts of health education, health promotion, special needs requirements, and public health research. Students design, implement, and evaluate a community oral health initiative while outlining strategies to meet area and culture specific needs within the population.

HSDH4340 PERIODONTOLOGY III
Prerequisites: HSDH3241
Understanding dental-related diseases is an important part of dental hygiene. This course builds on concepts and skills covered in Periodontology I and II and focuses on assessments of risk factors for periodontal diseases, planning for patients with periodontal diseases, implementation of therapeutic interventions, and management of special need patients and periodontal emergencies. Students also explore the expanded roles of the dental hygienist in surgical therapy.

HSEH1110 PRINCIPLES OF ENVIRONMENTAL HEALTH
This course introduces students to the environmental health program by examining the historical development of the environmental health field as well as emerging environmental health issues. Students explore topics including communicable and non-communicable diseases; air, water, and land quality; food safety; and emergency management in the local and global contexts. The course also introduces fundamental skills of the profession, such as research, risk assessment, and health education and promotion.

HSEH1310 ENVIRONMENTAL HEALTH LAW
Prerequisites: HSEH1110
Environmental health professionals must understand several basic concepts and principles of environmental health law. This course introduces the student to legal systems and processes in different countries. Students learn legal duties and responsibilities, legal powers and authorities, and progressive enforcement of legislative requirements. Students also learn about inspections and investigations, enforcement strategies, and conflict resolution. The course emphasizes the importance of legislation in policy development.

HSEH2120 DRINKING WATER QUALITY
Prerequisites: HSEH1110
This course introduces students to the fundamentals of drinking water, including sources, standards, testing and monitoring, and treatment methods. Students learn how to perform water sampling, testing, and analysis using recognized techniques. Students also prepare professional reports that provide analysis results and practical recommendations for preventive or corrective measures.

HSEH2130 INDOOR AIR QUALITY
Prerequisites: HSEH1110
This course introduces students to the principles of indoor air quality and the methods involved in the collection, analysis, and interpretation of indoor air quality data. Using best practices, students learn how to use this data to investigate air quality concerns and produce evidence-based recommendations to eliminate pollutants in line with national and international legislations.

HSEH2210 COMMUNICABLE DISEASES
Prerequisites: BIOL1030, BIOL1031
This introductory course covers the basic concepts of significant local and international communicable diseases of environmental health, including emerging and re-emerging infectious diseases. It also explores basic terminologies and the role of environmental health and vaccines.

HSEH2320 PROFESSIONALISM & ETHICS FOR ENVIRONMENTAL HEALTH
Professional and ethical behavior in the workplace are key responsibilities. This course helps students explore how values, attitudes, and culture influence ethical behavior. Students also compare a code of conduct with code of ethics and examine the expectations of professional organizations and a member's responsibility towards continued professional development. Responsibilities to employers, co-workers, fellow professionals, and the public are examined.

HSEH3120 FOOD SAFETY
Prerequisites: HSEH1110
This course provides students with knowledge and skills to supervise food safety in a food business and examines safety in food production and processing "from farm to fork." Students study the use of the Hazard Analysis Critical Control Point (HACCP) food-safety management system, supported by local examples of practical HACCP applications. They also learn about health and safety for food workers and inspection and enforcement strategies and methods, including the use of premises food safety ratings.

HSEH3141 SOLID WASTE MANAGEMENT
Prerequisites: HSEH1110
Waste management is a key component of environmental health. This course introduces students to different types and sources of solid waste, the environmental-health impacts of different types of waste, and some of the ways these impacts are managed.

HSEH3210 AMBIENT AIR QUALITY
Prerequisites: HSEH2130
This course is designed to introduce students to the principles of Ambient Air Quality and methods involved in the collection, analysis, and interpretation of ambient air quality data, thereby allowing them to investigate and eliminate air quality concerns. Students examine meteorology and its impact on the dispersal of air pollutants and learn specific technical knowledge and skills related to the management and abatement of gaseous waste streams from manufacturing industries.

Course Descriptions

HSEH3220 COMMUNICABLE DISEASE, INVESTIGATION, & CONTROL

Prerequisites: HSEH2210, HSOH2050

Environmental Health professionals play a key role in protecting the public from exposure to communicable diseases. This course builds on the knowledge gained from Communicable Diseases and Epidemiology courses to teach students the procedures for the investigation and control of outbreaks using lecture and lab sessions. Course topics include health care-acquired infections, the surveillance, identification, and control of major outbreaks and pandemics, and the reprocessing and maintenance of equipment. Students participate in outbreak investigations and make recommendations for the prevention and control of communicable infectious diseases.

HSEH3230 HEALTH PROMOTION & EDUCATION

Prerequisites: HSOH2050

This course provides students with a comprehensive introduction to health-promotion programs by combining theory and practice with a hands-on guide to program planning, implementation, and evaluation. Students plan an effective health-promotion strategy and campaign to address an emerging local public-health issue. Topics include conducting community analyses to ascertain pertinent public health issues. Students gather data on a selected topic, use a relevant health-promotion strategy to develop a local program, create effective presentations, apply appropriate educational techniques, and disseminate information to various audiences.

HSEH3240 RECREATIONAL WATER QUALITY

Prerequisites: HSEH2120

This course introduces students to public health concerns associated with pools, spas/hot tubs, and beaches. Students learn the principles of recreational water safety, including water-quality parameters, testing and monitoring, remediation, emergency measures, and public communication.

HSEH3250 WASTEWATER MANAGEMENT

Prerequisites: HSEH3240

This course introduces students to the types and sources of wastewater, the environmental health impacts of different types of wastewater, and strategies for their management.

HSEH3310 ENVIRONMENTAL HEALTH PRACTICUM I

Prerequisites: HSEH3120, HSEH3210, HSEH3220

In this course, students apply their professional knowledge and technical skills to a real-world healthcare setting. They work as environmental health practitioners under the direct supervision of both the employer and the practicum instructor. The work setting varies between public and private environmental health-related agencies. Students job-shadow a designated professional in their field inspections and, in these types of applied settings, contribute to preventive health programming, planning, and evaluation.

HSEH4110 ENVIRONMENTAL HEALTH APPLICATIONS

Prerequisites: HSEH3141, HSEH3210

This course introduces and compares statutory and common law nuisances. It also investigates the technical assessment of noise nuisance and its remedial options, as well as consider nuisance and health hazards from animal facilities such as feedlots, broiler houses, and egg plants. The course then addresses specific environmental-health concerns about public and community facilities and animal-welfare facilities such as animal boarding establishments.

HSEH4120 HOUSING & HEALTH

Prerequisites: HSEH2130, HSEH3250

Environmental health professionals need to understand the factors that influence health in housing and the legal standards for tolerable housing. Students also identify unsafe housing conditions and determine the appropriate steps for remediation. Students learn through lectures and lab activities about the different types of accommodation, including single family dwellings, houses in multiple occupations, temporary/transient accommodations, and worker accommodations.

HSEH4130 LAND USE & COMMUNITY PLANNING

Prerequisites: HSEH3141, HSEH3250

Environmental Health is involved in creating a healthy context for housing through land-use planning controls. This course assesses the health impact of land contamination and predicts the environmental and health impact of major new projects through environmental assessment. Students conduct site assessments, determine the impact of development on the environment, and suggest ways to avoid or remediate impacts.

HSEH4210 EMERGENCY MANAGEMENT

Prerequisites: HSEH4110, HSEH4120, HSEH4130

This course introduces students to the emergency management cycle from an environmental health perspective. It also examines the role the environmental health professional plays in the preparedness, response, recovery, and mitigation stages of emergency management and covers essential skills for emergency management, such as risk assessment, risk communication, and emergency planning.

HSEH4230 FOOD INTEGRITY

Prerequisites: HSEH3120

This course introduces students to important elements of food safety management, nutrition and health, and consumer protection. It further covers the investigation of food complaints, requirements for food composition and labelling, food security, nutrition, food crime, and food import and export controls.

HSEH4310 ENVIRONMENTAL HEALTH PRACTICUM II

Prerequisites: HSEH3310, HSEH4110

This course provides students with the opportunity to apply their knowledge and professional and technical skills in a real-world work setting. Students work as environmental health practitioners under the direct supervision of both the employer and the practicum instructor. The work setting varies between public and private environmental health-related agencies. Students job-shadow designated environmental health professionals in their field inspections and/or visits. In this type of applied setting, students contribute to preventive health programming, planning, and evaluation.

HSHG2020 HEALTH & WELLNESS

Understanding and practicing a healthy lifestyle is essential for Health Science professionals as it helps prevent the onset of non-infectious illnesses. Through lectures and lab activities, this course covers important topics such as nutrition and disease, physical activity, mental health, substance abuse, and health misinformation. Students are encouraged to develop and implement their own lifestyle plan as well as assist others in improving their lifestyle choices.

Course Descriptions

HSHG2080 ETHICS IN HEALTHCARE
This is an introductory course in health care ethics, legal issues, and workplace concerns. Students become aware of, understand, appreciate and evaluate commonly encountered ethical, legal, and professional problems in the workplace. Through course content, lectures, selected readings, and discussions, students examine ethical and legal theories, together with what constitutes professional behavior, values, and practical wisdom. These concepts are then applied to current issues related to healthcare professionals.

HSHG2090 PRINCIPLES OF PHARMACOLOGY
Health Science professionals who are engaged in patient treatment need to know the fundamentals of pharmacology. Topics in this lecture-based course include the development, classification, and control of pharmacological agents, the effects of those agents on the body, and the principles of safe and effective medication administration.

HSHG2101 HEALTH TECHNOLOGY & INFORMATICS
Students explore the intersection of healthcare and technology. A focus is on key components of health technology and informatics used for client care, health care administration, research, and education. The impact of health technologies and informatics on healthcare delivery and person, family, and community outcomes is examined. Professional, legal and ethical issues associated with the use of health technology and informatics in healthcare is explored.

HSHG2210 COMMUNICATIONS IN HEALTHCARE
Prerequisites: COMM1010
Communication skills are a vital component in workplace relations and patient care. This lecture-based course is designed to enable Health Science students to communicate clearly, concisely, and correctly in both written and oral forms in the health care setting. Emphasis is placed on medical documentation and oral communication with healthcare professionals, clients, and families.

HSHG4101 LEADERSHIP & CHANGE MANAGEMENT FOR HEALTH PROFESSIONALS
Prerequisites: Min 60 Credits
Leadership and change management are critical competencies for health professionals, as the healthcare industry is characterized by constant evolution and complexity. Effective leadership is essential for guiding multidisciplinary teams, ensuring clear communication, and making informed decisions impacting patient care and organizational performance. In an environment where policies, technologies, and best practices are continuously shifting, the ability to manage change is equally important.

HSMR1100 INTRODUCTION TO MEDICAL RADIOGRAPHY PRACTICE
This course introduces Medical Radiography students to the profession(s) and its scope of practice in medical imaging. Students learn ethical, legal, and safety standards and engage in interprofessional collaboration and reflective practice. They also hone their communication skills to deliver effective patient-care techniques for diverse populations in imaging departments and a variety of clinical settings. They eventually learn medical terminology and go on to understand and demonstrate infection control practices, surgical asepsis skills, the fundamentals of safe patient transfer, and oxygen administration for patients.

HSMR1201 APPARATUS & ACCESSORIES
Prerequisites: PHYS1130
Students are introduced to both theory and practical laboratory skills relating to radiation safety standards and the use of basic equipment in the diagnostic imaging suite. They also gain knowledge of the production of x-radiation useful for medical purposes. This course provides both knowledge and practical skills for the use of the x-ray apparatus, its components and accessory equipment, and characteristics that allow the proper control of the x-ray beam. Additionally, students learn how to safely and effectively manipulate basic computed radiography-imaging equipment and accessories. They also gain knowledge of methods employed to facilitate heat dissipation during the production of x-radiation and practical skills employed to conserve tube life.

HSMR1203 RADIATION PROTECTION
Prerequisites: PHYS1130
With their knowledge of physics and human biology, students learn how to use radiation properly to provide maximum diagnostic information with minimal biologic damage to the patient, general public, co-workers, or themselves. They become familiar with and learn how to implement radiation safety standards, which includes local and international standards for the correct use of equipment, accessories, and other relevant factors that apply to radiation safety. Students also learn about historical radiation accidents and their global impact.

HSMR1303 DIGITAL IMAGING
Prerequisites: HSMR1201
This course focuses on the fundamental concepts of digital imaging, including principles of image acquisition, processing, and display. Students are introduced to the various applications of computer technology used in contemporary diagnostic imaging departments. With the aid of lab activities, they compare the image processing used in CR to the DDR imaging systems. The course emphasizes image-acquisition parameters and methods and their impacts on patient dose and image quality.

HSMR2102 RADIOGRAPHIC TECHNIQUE I
Prerequisites: HSMR1303
Co-requisites: HSMR2105
This course introduces students to the fundamental practices involved in performing general radiographic examinations of the appendicular skeleton and the vertebral column. Instructional areas include radiographic protocols and procedures, positioning criteria, radiation protection, and image production and evaluation. Students simulate adaptive radiographic skills as they relate to trauma, pediatric, and geriatric radiography.

HSMR2104 IMAGE ANALYSIS
Co-requisites: HSMR2102
This course introduces students to the criteria used to evaluate radiographic images of the appendicular skeleton and vertebral column. Students differentiate between optimal and suboptimal images, identify the anatomy best demonstrated, and recognize errors in positioning, image production, and/or image display. They also develop their image analysis skills by reflecting on how the error could have occurred and justifying corrective measures, should the projection be repeated.

HSMR2105 RADIOGRAPHIC ANATOMY I
Prerequisites: BIOL1310
Co-requisites: HSMR2102
Radiographic Anatomy I is the first of a two-course sequence. This course introduces students to the structural organization of the human body and enables them to gain the necessary knowledge and understanding of the anatomy of the appendicular skeletal system, with specific reference to radiographic practice and image interpretation.

Course Descriptions

HSMR2106 PATIENT CARE IN RADIOGRAPHY
Prerequisites: HSMR1100
In this course, students apply the necessary knowledge and judgement to provide appropriate patient-care techniques and delivery in a variety of situations encountered at bedside and in imaging environments. This course re-emphasizes communication, interprofessional collaboration, infection control, and legal responsibilities, and further expands on previously introduced patient-assessment techniques. Students learn how to respond to medical emergencies and perform venipuncture, while also gaining knowledge of the use of common drugs, the administration of contrast media, and the optimal care for the special needs of patients during special procedures, trauma, and mobile radiography.

HSMR2201 RADIOGRAPHIC TECHNIQUE II
Prerequisites: HSMR2102
Co-requisites: HSMR2204
In this course students continue to explore the fundamental practices and skills in performing and analyzing general radiographic examinations. Instructional areas include examinations of the skull and facial bones, bony thorax, as well as examinations of the digestive, urinary, and reproductive systems. Students are expected to perform safe radiographic examinations by accurately interpreting requisitions, identifying required imaging exams, applying accurate positioning and prime factors, and evaluating images for diagnostic quality to determine if further action is required. Students are also required to practice adaptive radiography as it relates to trauma, mobile, pediatric, and geriatric imaging.

HSMR2202 SPECIALIZED IMAGING
Prerequisites: HSMR1201, HSMR1303
Medical imaging can be used for a broad range of diagnostic and therapeutic purposes. In this course, students learn about the physical principles, standard components, and clinical applications of specialized imaging systems and modalities. They also learn about equipment operation, safety considerations, and imaging techniques involved in various radiologic examinations and procedures.

HSMR2203 COMPUTED TOMOGRAPHY I
Prerequisites: HSMR1303
It is imperative for radiological technologists to possess a comprehensive knowledge of the principles and mechanisms behind the computed tomography (CT) modality. This course focuses on the instrumentation and processes that form the basis of CT, such as data acquisition, image reconstruction, and image display. Students gain an introductory understanding of the technical aspects of CT through a variety of lectures and interactive laboratory sessions.

HSMR2204 RADIOGRAPHIC ANATOMY II
Prerequisites: HSMR2105
This course enhances students' knowledge of human anatomy and teaches them how to identify pertinent anatomical structures on projection and sectional images across various imaging modalities, including Fluoroscopy, CT, and MRI. Instructional areas include the anatomy of the skull, soft tissue, neck, spine, respiratory, cardiovascular, digestive, urinary, reproductive, nervous, and endocrine systems.

HSMR2301 RADIOGRAPHIC CLINICAL ORIENTATION
Prerequisites: HSMR2201, HSMR2202, HSMR2204, HSMR2304, HSMR1203
Clinical practice in the health care setting is a unique work environment with many challenges and expectations. This course serves as an introduction to that environment and allows students to reinforce the theoretical knowledge they acquired during the didactic segment of their training program. Through observation and participation at various clinical sites, students enhance their knowledge of the equipment and the skills needed to work in today's modern diagnostic imaging departments.

HSMR2302 IMAGING QUALITY CONTROL
Prerequisites: HSMR2202
This course provides students with a comprehensive knowledge of quality assurance processes associated with image quality management necessary to maintain a high standard of image quality. Students learn to perform inspection procedures and reject-image analysis as part of the overall quality assurance program.

HSMR2304 PATHOLOGY FOR IMAGING PROFESSIONALS
Prerequisites: BIOL1310
Co-requisites: HSMR2204
This course familiarizes students with the frequent pathological conditions encountered in the medical imaging department. Students develop an understanding of the manifestations of pathologies and their corresponding radiographic appearance. Using knowledge of radiographic anatomy and the body system approach, students learn about etiology and the signs and symptoms of pathologies and their radiographic representation on various imaging modalities.

HSMR2305 COMPUTED TOMOGRAPHY II
Prerequisites: HSMR2203
The clinical application of Computed Tomography (CT) requires an in-depth study of CT protocols and procedures. In this course, students build on prior knowledge encompassing CT instrumentation, pathology, and cross-sectional anatomy to explore and appreciate the full scope of CT imaging. Students are instructed using an interactive model of lectures and practical laboratory sessions to learn and apply these concepts.

HSMR3101 CLINICAL RADIOGRAPHY I
Prerequisites: HSMR2301, HSMR2302, HSMR2305
Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR3201 CLINICAL RADIOGRAPHY II
Prerequisites: HSMR3101, HSMR2302, HSMR2305
Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

Course Descriptions

HSMR3300 EMERGING TRENDS IN RADIOGRAPHY
Prerequisites: HSMR2202
In this seminar-based course, students engage with a range of topics relating to current trends and future directions in medical imaging. They research, develop, and present a seminar and paper on selected topics/trends that are relevant and forward-looking in the field of medical imaging and related healthcare systems and fields. In addition, students research and critique current journal articles.

HSMR3302 INTERVENTIONAL RADIOGRAPHY
Interventional radiography (IR) is one of the many exciting pathways that radiological technologists can pursue in their careers. Building on previously learned medical imaging principles, students are introduced to the collaborative, interprofessional approach to IR practice and patient management. Students will also learn modality-specific concepts such as interventional equipment, instruments and common diagnostic/therapeutic procedures. Lectures and problem-based learning form the basis of content delivery in this elective course.

HSMR3303 INTRODUCTION TO ULTRASOUND I
This course provides students with basic knowledge in ultrasound scanning, including introductory sound physics, knobology, transducer selection, recognition of abdominal organs on an ultrasound image, and recognition of common abdominal pathologies. Students will gain introductory sonography scanning skills in a laboratory setting.

HSMR3304 INTRODUCTION TO MRI I
This course focuses on the basic concepts of MRI physics and its application in diagnostic imaging. Students will gain knowledge of the fundamentals of magnetization, image weightings, pulse sequences, image formation, scanning parameters, and image artifacts. Students also learn about MRI instrumentation and MRI safety.

HSMR3305 MAMMOGRAPHY
This course provides students with the screening, diagnostic, and special positioning requirements to demonstrate breast tissue radiographically. Students will learn about the structure, function, location, radiographic appearance, and pathologies associated with breast tissue. Students will be able to apply the necessary assistance and knowledge to provide appropriate patient care in a healthcare facility. Students will acquire the knowledge and skills necessary to operate mammography equipment safely, effectively and efficiently. Students will better understand the modalities that complement mammography and the current trends and emerging technologies associated with breast imaging.

HSMR3306 CLINICAL RADIOGRAPHY III
Prerequisites: HSMR3201
Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR4203 INTRODUCTION TO ULTRASOUND II
Prerequisites: HSMR3303
This course advances students' knowledge in general ultrasound scanning, including; general scanning of the aorta, leg veins and pathologies of the liver, kidneys, pancreas, gallbladder, spleen and aorta. Students are introduced to the physics behind color flow and pulse wave Doppler. In the lab, students practice their scanning skills, by scanning vascular structures including the portal venous system, hepatic system, and leg veins.

HSMR4204 INTRODUCTION TO MRI II
Prerequisites: HSMR3304
This course covers advanced techniques and clinical applications of MRI such as fast imaging techniques (fast gradient echo, fast spin echo, echo planar imaging EPI, parallel imaging), tissue suppression techniques, MR Angiography (MRA), Cardiac MRI, In Vivo Magnetic Resonance Spectroscopy (MRS), Diffusion (DWI) and Diffusion Tensor Imaging (DTI), Perfusion MRI, and Functional MRI (fMRI).

HSMR4301 CLINICAL RADIOGRAPHY IV
Prerequisites: HSMR3101, HSMR3201, HSMR3306
Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR4302 EXPLORATORY SPECIALIZED IMAGING PRACTICUM
Prerequisites: HSMR4301
This course serves as the final clinical practicum in the medical radiography program. In this practicum, students who have successfully completed required clinical logs and competencies rotate in a clinical imaging specialty of their preference. Clinical imaging specialties include, but are not limited to, Computed Tomography, Interventional Radiology, Magnetic Resonance Imaging, Ultrasound, Mammography, and Cardiac Catheterization Lab. Rotational assignments are assigned based on student clinical progress, completion of Medical Radiography electives, academic standing, and site availability.

HSOH1100 INTRODUCTION TO HEALTH, SAFETY, & ENVIRONMENT
This course introduces students to the basic principles of occupational health, safety, and environment (HSE). HSE is a multidisciplinary field concerned with protecting the health, safety, and welfare of workers and the environment as a result of workplace operations. Students learn to apply the fundamental concepts and techniques of hazard identification, risk assessment, and risk control used by HSE practitioners. Students are also introduced to topics concerning fire safety, working with electricity, ergonomics, hazardous material management, and environmental management from an occupational health and safety risk-management perspective.

HSOH1200 HEALTH, SAFETY, & ENVIRONMENT MANAGEMENT SYSTEMS
Prerequisites: HSOH1100
This course examines the key elements of an effective occupational health and safety management system. Presented within the continuous improvement model of Plan-Do-Check-Act, students learn to assess risks using international standards and to make decisions for the continuous quality improvement of a complete system.

Course Descriptions

HSOH1300 HEALTH, SAFETY, & ENVIRONMENT LAW
Prerequisites: HSOH1200
Health and safety professionals must understand the law, as they are responsible for compliance and enforcement to ensure workplace and public safety. This lecture-based course introduces students to legal systems and different sources of occupational health, safety, and environmental legislation, standards, and guidelines. Students develop the skills needed to extract sections of legislative documentation and apply them to policy and procedures. Students also develop an understanding of court systems and the role of health and safety professionals in court cases. Students further examine the interrelated roles of the enforcement officer and practitioners in strengthening or hindering enforcement efforts.

HSOH2040 PROFESSIONALISM & ETHICS
closely linked. This lecture-based course enables students to explore how values, attitudes, and culture influence behavior. Students also examine the expectations of professional organizations in terms of what it means to abide by a code of conduct and a member's responsibility towards continued professional development. Organizational culture and leadership are also explored.

HSOH2050 EPIDEMIOLOGY
Prerequisites: MATH2002
This course introduces students to the fundamental principles and practices of epidemiology. It presents common practices undertaken by health professionals to describe, interpret, analyze, and communicate disease and injury findings to the population at risk. It also introduces steps to investigate illness and/or injury, both descriptively and analytically, in the population. Emphasis is given to the disparity of the disease and/or injury status across different populations.

HSOH2102 INTRODUCTION TO TOXICOLOGY
Prerequisites: CHEM1030, CHEM1031
This course emphasizes the life cycle of toxins in the human body. In addition to describing the general principles of toxicology and dose-response relationship, it analyzes the processes of absorption, distribution and storage, and biotransformation and elimination of toxins. Various toxins are used as examples to describe these processes, and students learn how to conduct toxicological risk assessments in accordance with internationally recognized standards.

HSOH2110 OCCUPATIONAL HAZARDS & CONTROLS
Prerequisites: HSOH1200
Occupational hazards typically cause permanent, chronic health effects after repeated exposure over an extended period. Examples include noise-induced hearing loss, cancer, and carpal tunnel syndrome. Students develop the skills required to identify occupational health hazards in the workplace, assess the risk of health hazards, and recommend controls to minimize the risk of hazards in accordance with international standards and best practices.

HSOH2220 INSPECTIONS & INVESTIGATIONS
Prerequisites: HSOH1200
In this course, students work in teams to carry out an audit of an organization's management system, conduct an accident investigation in accordance with internationally accepted best practices, and complete a workplace inspection. Students also present results to management using written and oral reports.

HSOH2300 PROCESS SAFETY MANAGEMENT
Prerequisites: HSOH1200
This course provides an understanding of how principles of process safety management are applied to process industries such as oil and gas production and processing, petrochemicals, pharmaceuticals, fertilizers, food, and any chemical processing facilities. It covers a broad range of topics, including process safety leadership and the management of process risk and hazard control. Students contribute to the effective management of process safety and profile the major risks and hazard control measures in a typical process installation.

HSOH3110 FIRE SAFETY & RISK MANAGEMENT
Prerequisites: HSOH1200
This course provides students with the knowledge and skills to identify, assess, and control fire safety risks. They study basic fire science before moving on to fire protection in buildings and the safety of people in the event of a fire. Students also develop the skills required to undertake a comprehensive fire inspection in a building and develop and implement fire emergency plans.

HSOH3120 MANAGEMENT OF HEALTH & WELLNESS AT WORK
Prerequisites: HSOH2110
This course is designed to develop the skills and knowledge to complete a health and wellness review in the workplace. Promoting health, safety, and welfare in the workplace contributes to reduced absenteeism and a more motivated and productive work force. The course emphasizes practical management solutions to enable health, safety, and environment practitioners to contribute to the prevention of ill-health and the promotion of a healthy work environment.

HSOH3150 OCCUPATIONAL HYGIENE I
Prerequisites: HSOH1200
This is the first course in a two-course series for Occupational Hygiene. Occupational hygiene is the science and art devoted to the anticipation, recognition, evaluation, and control of exposures arising in the workplace that may cause sickness, impaired health and well-being, or significant discomfort among workers or the citizens of the community. The course explores the basic concepts of occupational health and hygiene, looks at the concept of the exposure limit for workplace health hazards, and identifies control strategies for workplace health hazards. It emphasizes the importance of industrial ventilation and the requirement for personal protective equipment. Students learn how to apply the occupational exposure risk-management process to aerosols, metals, gases, and vapors in the workplace.

HSOH3210 ERGONOMICS
Prerequisites: HSOH2110
This course emphasizes the strategies and techniques involved in assessing the interface between workers and their machines, tasks, tools, and equipment. Students review ten ergonomic principles and apply them to various work examples. They also develop and conduct an ergonomic assessment in an office environment and discuss ergonomics in the design and engineering of workplaces.

HSOH3220 ENVIRONMENTAL MANAGEMENT
Prerequisites: HSOH1200
Environmental management in occupational health and safety is about inspecting and evaluating the environment, equipment, and processes in working areas to ensure compliance with safety regulations and industry standards. The main goal is to protect workers, customers, and the environment. In this course, students develop the necessary skills to assess the quality and impact of air, water, land use and waste, and noise in the workplace against industry standards and best practices. Students also write reports and make recommendations for improvement based on the evidence and the system.

Course Descriptions

HSOH3251 OCCUPATIONAL HYGIENE II
Prerequisites: HSOH2110
This is the second course in a two-course series for Occupational Hygiene which explores the issues of indoor air quality (IAQ), noise and vibration, radiation, the thermal environment, lighting and biological hazards in the workplace. At the end of this course, student complete an occupational hygiene survey and write a hygiene report.

HSOH3300 HEALTH & SAFETY AUDITING
Prerequisites: HSOH1200
In this course, students review the process of Occupational Health, Safety and Environment auditing. OHS auditing is a process for assessing the compliance of an OHS program with legislation and regulations and verifying that it conforms to established guidelines or best practices in occupational health and safety. In this course, students conduct an audit on a workplace and present results to management.

HSOH4100 INTERNATIONAL OIL & GAS CERTIFICATE
Prerequisites: HSOH1200, HSOH2300
In this course, students gain a sound knowledge necessary to manage oil and gas operational risks effectively. This course focuses on international standards and management systems, enabling students to perform workplace safety responsibilities both onshore and offshore and effectively influence operational safety decisions.

HSOH4130 OCCUPATIONAL HEALTH & SAFETY IN THE CONSTRUCTION INDUSTRY
Prerequisites: HSOH2110
This course examines workplace health and safety issues in the construction industry. Students learn to manage construction risks and hazards, produce or contribute to a construction health and safety management plan, manage contractors, positively influence the health and safety culture and behavior, and carry out a risk assessment of a construction site. Students also develop basic safe systems of work that include emergency arrangements, develop a permit-to-work system, and participate in incident investigations.

HSOH4200 OCCUPATIONAL HEALTH, SAFETY, & ENVIRONMENT DEGREE PRACTICUM
This course provides students an opportunity to apply their knowledge, professional and technical skills in a real-world work setting in Qatar. Students spend 240 hours working in the field of Health, Safety and Environment (HSE) under the direct supervision of an HSE Professional. Professional performance and technical skills will be assessed by both the employer and the supervising instructor. This course requires students to complete all practical applications for the National Examination Board Occupational Safety and Health (NEBOSH): International General Certificate in Occupational Health and Safety, Certificate in Environmental Management, and Certificate in Fire Safety.

HSPA1000 FUNDAMENTALS OF PARAMEDIC PRACTICE
Paramedic practice requires professionals to be aware of the history and needs of the profession. In this course, students gain familiarity with the profession of paramedicine, including the historical perspective, the requirements of a modern EMS system, paramedic roles and responsibilities, healthcare ethics, and pertinent legislation. In the classroom and lab setting, students have the opportunity to develop effective techniques for patient assessment and information gathering. In addition, they practice how to demonstrate responsible professional behavior and ethical decision-making.

HSPA2100 CARDIOLOGY
Prerequisites: HSPA1000
Paramedic students require a comprehensive understanding of cardiac physiology and electrophysiology, and of the techniques used to assess and diagnose disorders of the cardiovascular system. In this course, students will focus on acquiring, interpreting, and analyzing electrocardiogram (ECG) tracings for a variety of cardiac rhythms. They will also determine when a multi-lead ECG may be required and demonstrate the ability to obtain and analyze a diagnostic-quality 12-lead ECG. Finally, learners will demonstrate competence in the recognition and management of cardiac arrest, arrhythmias, and other cardiovascular system emergencies in accordance with established standards.

HSPA2101 EMERGENCY MEDICAL CARE I
Prerequisites: HSPA1000
Co-requisites: HSPA2111
Students in the Paramedicine program must have a strong knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics in order to identify and manage emergencies related to specific body systems. In this course, students apply what they have learned about professional practice, patient assessment and information gathering to the emergency management of a comprehensive list of medical conditions involving the respiratory, cardiovascular, and neurological systems following established protocols.

HSPA2111 CLINICAL PRACTICE IN PARAMEDICINE I
Co-requisites: HSPA2101
Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This course is the first series that allows students to develop and apply affective and psychomotor skills necessary for effective emergency management. In this course, students utilize patient simulators in the controlled environment of the laboratory, under direct faculty supervision, to master techniques of airway management, ventilation, vascular access, and medication administration.

HSPA2150 OCCUPATIONAL FITNESS
Achieving and maintaining optimum physical and mental health is critical to a successful career in paramedicine. This course provides students with the tools to achieve a level of personal fitness that prepare them for the physical rigors of the profession, as well as strategies to maintain good mental health through a challenging career. Students learn about biomechanics, and practice procedures for lifting, securing, and transporting patients and equipment that minimize the risk of injury. Students need to demonstrate the ability to perform the physical tasks typical of the occupation safely. The course is conducted through lectures and labs.

Course Descriptions

HSPA2202 EMERGENCY MEDICAL CARE II
Prerequisites: HSPA2101
Co-requisites: HSPA2212
Increasing the level of applied skills and knowledge in various types of medical emergencies will help improve the students' critical thinking capacity and overall performance. This is the second of three courses in which students will integrate knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics to identify and manage emergencies related to specific body systems. In this lecture and lab-based course, students will apply prerequisite learning to the emergency management of a comprehensive list of medical conditions involving the immune, endocrine, genitourinary, and gastrointestinal systems, in accordance with established protocols.

HSPA2212 CLINICAL PRACTICE IN PARAMEDICINE II
Prerequisites: HSPA2100, HSPA2111
Co-requisites: HSPA2202
Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This is the second of a series of courses that allows students to develop and apply the affective and psychomotor skills necessary for effective emergency management of patients. In this course, students attend a variety of clinical rotations where they have the opportunity to demonstrate the application of learned skills to "real life" patient care within the hospital and ambulance settings, under the supervision of healthcare providers from the clinical sites.

HSPA2241 TRAUMATOLOGY I
Prerequisites: HSPA2101, HSPA2150
Paramedics require the necessary knowledge and skill to holistically assess and manage patients that have been subjected to trauma. In the State of Qatar, emergencies resulting from traumatic mechanisms of injury are prevalent and paramedics need to be prepared to optimally manage such patients. The objective of this course is to provide the foundational knowledge and skills required to care for the trauma patient, including concepts of kinematics of trauma, scene safety and management, systematic patient assessment and the application of critical interventions. In this lecture and lab based course, students combine their theoretical knowledge of trauma management with the application of basic skills and critical interventions.

HSPA2303 EMERGENCY MEDICAL CARE III
Prerequisites: HSPA2202
Co-requisites: HSPA2313
Paramedic students must apply their advanced skills to a variety of emergency situations. This is the third of three courses in which students integrate knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics to identify and manage specific types of emergencies. In this part, students apply pre-requisite learning to the emergency management of a comprehensive list of medical conditions involving the musculoskeletal, immunologic, and haematologic systems, as well as toxic exposures and exposure to adverse environments.

HSPA2313 CLINICAL PRACTICE IN PARAMEDICINE III
Prerequisites: HSPA2212
Co-requisites: HSPA2303
Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This is the third of a series of courses that allows students to develop and apply the affective and psychomotor skills necessary for the effective emergency management of patients. In this course, students utilize standardized patients or patient simulators in the controlled environment of the laboratory to apply the assessment and treatment procedures they have learned under specific circumstances, including special patient populations, environmental hazards, and toxic exposures.

HSPA2360 MENTAL HEALTH FOR PARAMEDICS
Prerequisites: HSPA1000
Paramedics must understand various mental illnesses that may be encountered on the job and how to relate to patients experiencing a mental health crisis. Students are introduced to techniques in the classroom and lab setting to protect their own mental health in relation to their experiences as healthcare workers.

HSPA2375 SPECIAL PATIENT POPULATIONS
Prerequisites: HSPA2101
Paramedics are expected to provide care for patients with various underlying conditions. This course addresses special considerations required for assessing and treating patients in specific population groups. Geriatric and bariatric patients, those with physical and mental impairments, individuals with terminal illnesses, and communicable diseases are covered in this lecture-based course.

HSPA3165 PEDIATRICS, OBSTETRICS, & NEONATOLOGY
Prerequisites: HSPA2101
To ensure the safe development and delivery of newborns, paramedics must have the knowledge and skills necessary for managing obstetric emergencies and childbirth. Using the classroom and laboratory setting, students learn how to care for a mother and fetus throughout pregnancy, childbirth, and the immediate postpartum period. The course also covers reproductive system disorders and pediatric emergencies.

HSPA3221 PARAMEDIC PATIENT MANAGEMENT I
Prerequisites: HSPA2303
Co-requisites: HSPA3231
Critical thinking and decision-making skills are essential during medical emergencies. This course is the first of three courses that provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into the provision of holistic care for various disorders. In this lecture and lab-based course, students formulate care plans for patients presenting disorders related to respiratory, cardiovascular, and neurological systems.

HSPA3231 PARAMEDIC INTEGRATION I
Prerequisites: HSPA2303, HSPA2313
Paramedic students need to practice essential skills before entering their practicums. This lab-based course prepares students for field practicum placements by simulating real-life emergencies within the controlled environment of the lab. Through high-fidelity simulation, students have the opportunity to demonstrate their ability to effectively lead a paramedic team through all aspects of emergency response and their proficiency in providing or delegating care to a wide variety of patient types.

Course Descriptions

HSPA3242 TRAUMATOLOGY II
Prerequisites: HSPA2241
Paramedics require the necessary knowledge and skill to holistically assess and manage patients that have been subjected to trauma. In the State of Qatar, emergencies resulting from traumatic mechanisms of injury are prevalent and paramedics need to be prepared to optimally manage such patients. The objective of this course is to build on foundational knowledge and practical skills obtained in Traumatology I. This course explores advanced assessment, diagnostics and management concepts required to optimally manage and treat the trauma patient. Dominant traumatic injuries related to specific body systems will be covered theoretically and the necessary clinical skills required to complement management of the trauma patient will be taught. Traumatology II is a lecture and lab based course, focusing on the integration of care for the trauma patient.

HSPA3280 DISASTER MANAGEMENT
Paramedics need to understand their role in disaster response. This course addresses specific knowledge and skills paramount to successfully resolving natural or man-made disasters on a regional, national, or international scale. Students are able to participate in simulated disaster exercises overseen by representatives from multiple agencies.

HSPA3341 AMBULANCE PRACTICUM
Prerequisites: HSPA3165, HSPA3231, HSPA3242 within 6 months
This module is a full-time field preceptorship in which students learn to provide patient care in the ambulance setting. Each student is supervised by an assigned paramedic preceptor and follows the same rotating shift schedule as their preceptor. This plan ensures students are exposed to the same conditions they might encounter after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

HSPA3370 PARAMEDICINE IN PRIMARY HEALTHCARE
Prerequisites: HSPA2101
Paramedics can play a significant role in providing community care. Using a series of lectures, students will explore methods and tools available to engage with the public in order to improve the health and well-being of the community. Students are able to participate in community health education and promotion for injury prevention.

HSPA4122 PARAMEDIC PATIENT MANAGEMENT II
Prerequisites: HSPA3341
Co-requisites: HSPA4132
Highly developed critical thinking and decision-making skills in during medical emergencies are essential. This is the second of three courses which provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into the provision of holistic care for a wide variety of disorders. With the help of classroom and laboratory activities, students formulate care plans for patients presenting with disorders of the endocrine, musculoskeletal, genitourinary, and gastrointestinal systems.

HSPA4132 PARAMEDIC INTEGRATION II
Prerequisites: HSPA3341
Co-requisites: HSPA4122
Paramedic students must know all essential skills related to their profession before entering their final practicum. This course combines laboratory and clinical placements to provide students with the opportunity to develop and apply the affective and psychomotor skills necessary for the provision of holistic patient care. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory and apply the learned skills to real-life patient care within the hospital and ambulance settings.

HSPA4223 PARAMEDIC PATIENT MANAGEMENT III
Prerequisites: HSPA3341
Co-requisites: HSPA4233
Paramedics must demonstrate independent critical thinking and decision-making skills during medical emergencies. This is the third of three courses which provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into the provision of holistic care for a wide variety of disorders. In this part, students will formulate care plans for disorders related to hematology and immunology, communicable diseases, toxic exposures, exposure to adverse environments, and high altitude and diving incidents, as well as emergencies involving pediatric patients.

HSPA4233 PARAMEDIC INTEGRATION III
Prerequisites: HSPA3341
Co-requisites: HSPA4223
Paramedic students must know all essential skills related to their profession before entering their final practicum. This course combines laboratory and clinical placements to provide students with the opportunity to develop and apply the affective and psychomotor skills necessary for the provision of holistic patient care. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory and apply the learned skills to real-life patient care within hospital and ambulance settings.

HSPA4285 MANAGEMENT PRACTICE IN EMS
Graduates from the paramedicine program need to understand their role in the larger emergency medical system, locally and internationally. This lecture-based course provides a foundation for developing management practices in Emergency Medical Service (EMS) systems. In addition, students learn to navigate the structural aspects of an EMS organization.

HSPA4342 CRITICAL CARE PRACTICUM
Prerequisites: HSPA4132, HSPA4233
This module is a full-time field preceptorship in which students have the opportunity to synthesize and apply the knowledge, skills, and abilities developed throughout the program. Under the supervision of a qualified preceptor, students integrate (as appropriate) the full scope of paramedic competencies. Throughout their rotations, students are be exposed to various environments and situations. They attend a variety of shifts, including nights and weekends, ensuring that they are exposed to the conditions in which they will be working after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

HSPT1101 PHARMACEUTICAL CALCULATIONS I
Calculation skills are vital for Pharmacy Technicians/Technologists and directly relate to patient safety. In this fundamental course, the students are introduced to the basic pharmaceutical calculations, and gain a working knowledge of the various numerals, symbols, ratios, and proportions as they apply to prescription interpretation and dosage calculation. Furthermore, students interpret drug labels to calculate the required quantity of prescribed medications to be dispensed. Different measuring systems are introduced and their conversion from one to another are detailed and revised. Pediatric dosage calculation and temperature conversion from one scale to another is covered. Through a variety of lectures, activities, and group work students acquire the necessary knowledge, skills, and abilities to accurately complete all basic prescription calculations.

Course Descriptions

HSPT1201 PHARMACY COMPUTER SYSTEMS
Pharmacy computer systems play a vital role in pharmacy practice. In this course, the student learns the fundamentals of both community and hospital pharmacy computer systems. The student develops skills in accurate and efficient data entry, retrieval of information, and the generation of computer labels using actual pharmacy computer systems. Students also learn to interpret sample prescriptions, identify dosage forms and techniques to ensure data integrity. Through a variety of lectures, group work, practical laboratory sessions, and simulated prescriptions, students acquire the necessary knowledge, skills and technical abilities to deliver high-quality patient care in the pharmacy environment.

HSPT1202 PHARMACEUTICAL CALCULATIONS II
Prerequisites: HSPT1101
In this course, students gain an advanced level of knowledge and competencies related to dosage calculation, drug dispensing, and compounding of sterile and non-sterile products. Students build on the knowledge and skills gained in prior pharmaceutical calculations courses. Topics include drug strength, dilution and reconstitution, and intravenous administration. This course also explores pharmaceutical business math. Various learning strategies are utilized in the delivery of the sessions such as lectures, group activities, and discussions. The goal is to support students in the development of robust pharmaceutical skills with an emphasis on accuracy and precision to ensure patient safety and prevent medication harm.

HSPT1203 PHARMACY MANAGEMENT & INVENTORY CONTROL
Part of the role of the pharmacy technician/technologist is inventory management of medications, equipment, and devices. In this course, the student develops a working knowledge of various pharmacy management techniques including pharmacy operations, the financial and operational importance of purchasing and inventory control as well as efficient time management. Furthermore, students learn to identify and manage risks in the pharmacy environment. Students learn these concepts through a variety of lectures, group activities, and problem-solving sessions.

HSPT1301 PHARMACY REGULATIONS & PROFESSIONALISM
Pharmacy Technicians/Technologists require a fundamental knowledge of pharmacy law and regulations as these affect all aspects of the practice of pharmacy. This course introduces the student to principles of law, professionalism, and ethics in pharmacy. Students identify and interpret the laws and regulatory requirements associated with pharmacy establishment, professional registration, and the dispensing of prescription and non-prescription products. To protect the public and ensure patients' well-being, students gain an understanding of relevant pharmaceutical laws and regulations required to carry out their duties with professionalism, skill and authority. A variety of lectures, group discussions, assignments and workshop sessions help students acquire the relevant knowledge and skills required of a pharmacy technician/technologist to work within the legal framework on a daily basis.

HSPT2100 ORGANIC CHEMISTRY FOR HEALTHCARE
Prerequisites: CHEM1030, CHEM1031
This course aims to teach students the basic concepts of organic chemistry that illustrates the properties and behavior of major biomolecules. It is a fundamental course that facilitates students' comprehension and competencies in building the foundation for other advanced courses. The course discusses molecular representation and nomenclature, atomic structure and bonding, stereochemistry, acid-base equilibrium, and heterocycles. Furthermore, students analyze different reaction mechanisms in recognizing major biomolecules' behavior and activities.

HSPT2101 PRESCRIPTION PROCESSING
Prerequisites: HSPT1201, HSPT1202
Prescription processing and dispensing medication is a fundamental task of a pharmacy technician/technologist in a community pharmacy. This course introduces the student to the prescription dispensing process in a community pharmacy. This includes receiving prescription and collecting necessary information from patients, interpreting and entering the prescription in pharmacy software, filling the prescription with the right drug and finally releasing the prescription to the patient. Furthermore, students' practice "independent double-check" of prescriptions with zero tolerance with errors. Prescription billing and third-party adjudication are also covered in the course. The course delivery includes extensive hands-on training on processing prescriptions and dispensing medications together with lectures and demonstrations.

HSPT2102 PHARMACOLOGY I
Prerequisites: BIOL1210, BIOL1310
In this first of a two-part course, students will develop an in-depth understanding of the therapeutic agents and classes, mechanisms of action, side effects, drug interactions, adverse events, and monitoring parameters. Topics include but are not limited to: Foundation Issues, Special Populations, Neurologic Disorders, Psychiatric Disorders and Endocrinologic Disorders. Students will be able to apply the discussed therapeutic principles in patient cases and scenarios. Various learning strategies will be utilized in the delivery of the sessions such as: lectures, group activities, discussions, and presentations. The goal is to support the students in the development of robust knowledge in therapeutics as well as commitment to patient care.

HSPT2103 COMMUNITY PHARMACY PRACTICE
Prerequisites: BIOL1310
This course covers a wide range of topics relevant to Community Pharmacy Practice. Students will develop an understanding of the principles of patient self-care, facilitating behavior change and non-prescription medications. Various learning strategies will be utilized in the delivery of the sessions, such as lectures, group activities, discussions, and presentations. The goal is for the student to have a strong foundation of knowledge and skills in the development of non-prescription therapeutic plans for patients under the direct supervision of the pharmacist.

HSPT2104 MEDICATION SAFETY, QUALITY & DRUG RECONCILIATION
This course will support the development knowledge and skills necessary to identify and engage in efforts to minimize or eliminate medication errors. Other topics addressing the processes of obtaining comprehensive and accurate medication histories and reconciling medications across the continuum of care are covered. Students will be introduced to the fundamentals of evaluating quality measures and principles of quality improvement. Various learning strategies will be utilized in the delivery of the sessions such as: lectures, group activities, discussions, and presentations.

HSPT2201 HOSPITAL PHARMACY PRACTICE
Prerequisites: HSPT1201, HSPT1202
Pharmacy Technicians/Technologists have a wide range of responsibilities in a hospital pharmacy including drug distribution, aseptic product preparation and inventory management. In this course, students focus on key concept of hospital and hospital pharmacy organizational structure, policy and procedures, hospital pharmacy job responsibilities, drug distribution, and the use of automation. Students acquire practical skills on the operation of Pyxis machine, Omni cell and solid and liquid drug packaging machines. The course is offered through extensive practical classes using state-of-the-art equipment at a simulated hospital pharmacy.

Course Descriptions

HSPT2202 ASEPTIC TECHNIQUE
Prerequisites: HSPT1201, HSPT1202
The compounding of sterile preparations is a major responsibility of the pharmacy technician/technologist and requires high-quality standards to ensure preparation quality and patient safety. This course provides instruction and training in sterile compounding and aseptic technique principles based on current USP Chapter <797> requirements. The student learns a series of process validation procedures which include: aseptic garbing, hand washing techniques, laminar airflow hood cleaning as well as large and small volume parenteral preparation. This course also covers quality control and assurance, total parenteral nutrition (TPN), aseptic calculations, and safe handling of antineoplastic drugs. Through a variety of lectures, problem solving sessions, and practical laboratory sessions, the students become acquainted with compounding sterile preparations and working in the aseptic environment.

HSPT2203 PHARMACOLOGY II
Prerequisites: HSPT2102
This advanced course in Pharmacology introduces the student to additional topics. Students build on previously learned pharmacology knowledge by discussing additional therapeutic agents and classes, mechanisms of action, side effects, drug interactions, adverse events, and monitoring parameters. Topics include but are not limited to: 1) Respiratory Disorders, 2) Cardiovascular Disorders, 3) Renal Disorders, 4) Ophthalmic Disorders, and 5) Oncologic Disorders. Students are able to apply the discussed therapeutic principles in patient cases and scenarios. Various learning strategies are utilized in the delivery of the sessions such as: lectures, group activities, discussions, and presentations. The goal is to support the students in the development of robust knowledge in therapeutics as well as commitment to patient care.

HSPT2204 NONSTERILE COMPOUNDING
Prerequisites: HSPT1201, HSPT1202
Compounding of pharmaceuticals is an essential skill for a pharmacy technician/technologist. This course focuses on preparation, and the essential techniques involved nonsterile compounding. The students follow and process compounding prescriptions with zero tolerance in making errors. Course content includes extemporaneous preparation of ointment, cream, solution, suspension and capsules. Furthermore, students are exposed to history of compounding, pharmaceutical forms and preparation, packaging and maintaining pharmaceutical elegance of all prepared products. The course also offers a review of pharmaceutical calculations related to extemporaneous compounding and percentage of error. Students learn through lecture, practical activities, and hands-on training in a fully equipped nonsterile compounding laboratory.

HSPT2300 CLINICAL WORK TERM
Prerequisites: HSPT2201, HSPT2202, HSPT2203, HSPT2204
The clinical work term is designed to transform the knowledge and skills acquired through didactic and practical learning in school to the real-life professional practice. This nine-week (40 hours/week) clinical placement enables the students to apply the fundamental principles of the pharmacy technician/technologist learned within the program to the workplace. It ensures that a graduating student develops the working skills to practice effectively in a hospital or community pharmacy setting. As part of their duties, students follow the instruction and tasks delegated by the respective preceptor. They prepare intravenous admixtures, non-sterile compounds and unit dose medications in a hospital practice site. In a community pharmacy, students dispense medication to the patients, maintain inventory and receive payments. Students are supervised and evaluated by the preceptor while being closely monitored by the instructor through frequent site visits and consultation.

HSPT3101 PHARMACY INFORMATICS
Prerequisites: HSPT2300
The Pharmacy Informatics course is designed to provide students with the essential knowledge and skills for effective management of automated systems, pharmacy-related information in EMRs, and Pharmacy Information Systems. Through a variety of lectures, group work, and practical sessions, the students are able to acquire the necessary knowledge, skills and technical abilities to manage medication-related information effectively.

HSPT3201 PHARMACEUTICAL PROCESS TECHNOLOGY
Prerequisites: HSPT2300
The pharmaceutical process design course introduces students to the pharmaceutical industry. It discusses principles of pharmaceutical processing, pharmaceutical dosage form design, pharmaceutical dosage forms, and product processing and packaging. In this course, students learn through lectures, discussions, and field trips.

HSPT3202 PHARMACOGNOSY
Prerequisites: HSPT2100, HSPT2203
This course covers a wide range of topics and concepts addressing medicinal plant features. Students develop an in-depth understanding of the medicinal plant biotechnology, medicinal and aromatic plant substances, phytopharmaceuticals and marker constituents, drugs from marine sources, drugs from mineral origin, aromatherapy, and biomedicinal values of important herbs. Various learning strategies are utilized in the delivery of the sessions such as: lectures, group activities, discussions, and presentations. The goal is for the student to have a robust foundation of knowledge in pharmacognosy and phytochemistry.

HSPT3203 PHARMACEUTICAL ANALYSIS
Prerequisites: HSPT2100, HSPT2300
Co-requisites: HSPT3204
The pharmaceutical analysis course introduces principles and methods of quality control used in pharmaceutical industry. Students learn testing procedures that are used to determine different parameters related to pharmaceuticals, such as: concentration, purity, stability, identity, rate of release, and rate of absorption in the body. Students learn through didactic lectures, group discussions, simulations, and lab experiments.

HSPT3204 BIOCHEMISTRY FOR HEALTH CARE
Prerequisites: HSPT2100
This course describes the chemical composition and behavior of biomolecules in the biological system, which provides essential knowledge required for advanced pharmaceutical courses. Biochemistry knowledge together with innovation and the integration of cutting-edge science and technology promotes scientists to take a drug molecule from the laboratory to the pharmacy drug shelve. Course delivery contains an understanding of the four major biomolecules, plasma membrane structure and function, and the integration of metabolism and nutrition. Students learn through didactic lectures, group discussions, and simulations.

HSPT4101 BIOPHARMACEUTICS & PHARMACOKINETICS
Prerequisites: HSPT2203, HSPT3204
This course aims to teach students basic concepts of pharmacokinetics and biopharmaceutics, which are fundamental for pharmacy practice and research. These concepts include fundamental definitions and calculations related to biopharmaceutics and pharmacokinetics, along with analysis of factors that govern drug absorption, disposition, and bioavailability. Students learn through didactic lectures, a case study, group discussions, and hands-on practice by using well-known PBPK modeling software.

Course Descriptions

HSPT4102 DRUG DISCOVERY & DEVELOPMENT
Prerequisites: HSPT3202, HSPT3204
Drug discovery and development from molecules to a refined drug has become a time-consuming complex procedure involving a multidisciplinary team working on medicinal chemistry, biological targets, and drug design. In this course, students develop a foundation in the concepts that govern the multidisciplinary process of drug discovery. They explore target identification, validation, lead identification, and toxicological study. This is followed by a discussion on preclinical activities, clinical trial design, biomarkers, and translational medicine. Furthermore, students learn important topics essential for a pharmaceutical R&D business, organizational structure, and patent protection. Students learn the complex material through lectures, discussions, modeling projects, and case studies.

HSPT4103 VACCINE DEVELOPMENT
Prerequisites: HSPT3204
Pharmacy computer systems play a vital role in pharmacy practice. In this course, the student learns the fundamentals of both community and hospital pharmacy computer systems. The student develops skills in accurate and efficient data entry, retrieval of information, and the generation of computer labels using actual pharmacy computer systems. Students also learn to interpret sample prescriptions, identify dosage forms and techniques to ensure data integrity. Through a variety of lectures, group work, practical laboratory sessions, and simulated prescriptions the students acquire the necessary knowledge, skills, and technical abilities to deliver high-quality patient care in the pharmacy environment.

HSPT4104 GOOD MANUFACTURING PRACTICE
Prerequisites: HSPT3201, HSPT3203
Pharmaceutical manufacturing operations depend on Good Manufacturing Practice (GMP) to assure that products are consistently produced and controlled according to quality standards. This course examines the history, rationale, purpose, and GMP requirements applicable to the manufacturing of pharmaceutical products and the consequences of inaction. Students learn the requirements of quality assurance, quality control, and compliance with GMP applicable to pharmaceutical industries. These requirements are needed to avoid making mistakes and delivering solutions in the production of manufactured goods. Through a variety of lectures, group discussions, assignments and workshop sessions students acquire the relevant knowledge and skills required of a pharmacy technologist to work within the pharmaceutical industry.

HSPT4105 REGULATORY AFFAIRS & PHARMACEUTICAL JURISPRUDENCE
Prerequisites: HSPT2300
Pharmaceutical industry is one of the highly regulated industries worldwide where strict policies and guidelines are placed to govern its activities. This course introduces students to the current legislations and policies that regulate the lifecycle of drugs starting from drug discovery and pre-clinical studies to drug manufacturing, clinical studies, and marketing. Students gain a thorough knowledge about how safe and effective drugs are approved and registered from designated regulatory authorities. In addition, students learn the major pillars of pharmaceutical jurisprudence such as practicing pharmacy and dispensing prescription drugs, narcotics and psychotropics from a local perspective. Using didactic lectures, group discussions, case studies, and audio-visual teaching aids, students acquire the necessary knowledge and skills in the field of regulatory affairs and pharmaceutical jurisprudence.

HSPT4200 PHARMACY TECHNOLOGY WORK TERM
Prerequisites: All Prior Courses
This twelve- week practicum is designed to provide students with focused, intensive and advanced knowledge and skills in the field of Pharmacy Technology. Through direct interaction with competent and trained preceptors, students will be able to practice, with increasing independence, at various sites in hospitals and industrial pharmacy establishments.

HSRT1000 PROFESSIONAL PRACTICE IN RESPIRATORY THERAPY
In this course, students are introduced to the profession of respiratory therapy that centers upon professional standards and the organizations relevant to the profession.

HSRT1100 MEDICAL GAS THERAPY
Prerequisites: BIOL1210, CHEM1040
Understanding essential equipment is the foundation that guides the application of respiratory therapy procedures. This course explores basic respiratory therapy-related equipment theory through various lectures and practical lab exercises.

HSRT2120 CARDIOPULMONARY PHYSIOLOGY
Prerequisites: HSRT1100, BIOL1310
In this course, the students are introduced to an in-depth study of the anatomy and physiology of the cardiopulmonary and other body systems, which impact respiratory management.

HSRT2200 CARDIOPULMONARY PATHOPHYSIOLOGY I
Prerequisites: HSRT1100, BIOL1310
This course instructs students on describing the pathophysiologic manifestations, clinical signs, symptoms, diagnosis, and therapeutic management of the major respiratory obstructive and restrictive diseases.

HSRT2210 PHARMACOLOGY FOR RESPIRATORY THERAPY
Prerequisites: HSRT1100, BIOL1310
This course is an introductory course in Pharmacology as applied to Respiratory Therapy. General principles relating to drug administration are studied. Emphasis is on drugs affecting the respiratory and central nervous systems.

HSRT2220 RESPIRATORY TECHNIQUES
Prerequisites: HSRT1100, BIOL1310
This course introduces students to the theory and application of clinical assessment and management skills requisite to practicing respiratory therapy in a simulated environment.

HSRT2300 AIRWAY MANAGEMENT
Prerequisites: HSRT2200, HSRT2210, HSRT2220, HSRT2120
Airway management is a crucial skill that enables a respiratory therapist to support patients requiring airway assistance. In this course, students explore the use of various airway management techniques, related equipment, and associated therapies. The primary emphasis is on the principles of operation of the various types of equipment utilized in airway management within respiratory therapy. The course is conducted through various lectures and practical laboratory exercises to gain the necessary knowledge, skills, and abilities to work in a clinical environment.

HSRT2310 RESPIRATORY THERAPY CLINICAL APPLICATION I
Prerequisites: HSRT2200, HSRT2210, HSRT2220, HSRT2120
Respiratory Therapy students need clinical experience prior to entering the workforce. This course introduces the students to adult and pediatric clinical settings using a simulation laboratory and the hospital environment. Students integrate their learning from previous semesters to assess, intervene, and apply respiratory procedures as necessary in both simulated and clinical settings.

Course Descriptions

HSRT2320 CARDIOPULMONARY PATHOPHYSIOLOGY II
Prerequisites: HSRT2120, HSRT2200, HSRT2210, HSRT2220
To make effective decisions in the clinical environment, Respiratory Therapy students must have extensive knowledge of cardiopulmonary diseases and appropriate treatments. This course builds on Cardiopulmonary Pathophysiology I to give students a detailed understanding of cardiopulmonary pathophysiology that supports clinical decision-making regarding diagnosing and treating acute and chronic presentations commonly managed by respiratory therapists. In the classroom setting, students learn to describe the pathophysiologic manifestations, clinical signs, symptoms, and therapeutic management of the major neuromuscular, cardiovascular, and renal diseases to facilitate the development of discipline-specific treatment protocols. Students also gain knowledge regarding essential topics such as the effects of thermal injury and hypo/hyperbarism.

HSRT2330 MECHANICAL VENTILATION I
Prerequisites: HSRT2300, HSRT2310, HSRT2320
This course is the first in a series of mechanical ventilation courses. It encompasses mechanical ventilation's technical components as a replacement for normal spontaneous breathing. Students learn how mechanical ventilators function, how a breath is generated, ventilator controls and circuits, ventilator modes, alarm systems, and applied non-invasive mechanical ventilation. Through a variety of lectures, laboratories, and simulations, the course focuses on the necessary knowledge, skills, and attitudes to effectively operate mechanical ventilators.

HSRT2340 RESPIRATORY THERAPY CLINICAL APPLICATION II
Prerequisites: HSRT2300, HSRT2310, HSRT2320
Simulations and clinical experience enrich the Respiratory Therapy student's knowledge and skills before entering the workforce. This course is a continuation of Respiratory Therapy Clinical Application I and is designed to further assimilate respiratory therapy students to the clinical setting (including adult and pediatric). Students have an opportunity to expand on their knowledge and skills from previous semesters in order to assess, intervene, and apply respiratory procedures through practicing in simulation labs and clinical settings.

HSRT3000 EMERGING TRENDS IN RESPIRATORY THERAPY
Prerequisites: HSRT3200, HSRT3240
This course focuses on current topics in Respiratory Therapy. Students complete a thorough review of the current evidence for practice and ongoing research relating to emerging trends in the field.

HSRT3120 CARDIAC DIAGNOSTICS
Prerequisites: HSRT2330, HSRT2340
This course introduces the student to the theory and application of hemodynamic monitoring, invasive procedures, and cardiovascular assessment and management as utilized in the practice of respiratory therapy. Performance of these procedures takes place in a simulated clinical environment.

HSRT3130 NEONATAL RESPIRATORY CARE
Prerequisites: HSRT2330 HSRT2340
Co-requisites: HSRT3240
In this course, students learn the fundamentals of neonatal development and pathophysiology with a focus on the care and management of neonatal and pediatric patients. The students explore various areas of neonatal and pediatric respiratory care. Beginning with the developmental changes in utero to the transitions at birth to the continuing development thereafter, the course identifies the risks and problems associated with these developments and explain the procedure and rationale for delivering the appropriate respiratory care. This course also explores the specific neonatal and pediatric disease states as well as their treatment as it relates to respiratory care.

HSRT3140 ANESTHESIA
Prerequisites: HSRT2330, HSRT2340
In this introductory course, students develop an understanding of the principles and practices of anesthesia which is essential in their practice as respiratory therapists. Students learn about the functional aspects of equipment used by anesthesia personnel in today's modern operating room. Equipment verification and maintenance and the safe use are emphasized. Students also learn about monitoring of the patient's physiological performance and status, and the pharmacology of anesthesia.

HSRT3200 MECHANICAL VENTILATION II
Prerequisites: HSRT2330, HSRT2340
The application of mechanical ventilation can be lifesaving but also has certain effects which may adversely affect patient outcome. This course is the second in a series of mechanical ventilation courses and focuses on applied mechanical ventilation. Students learn the physiologic consequences of applied mechanical ventilation, strategies to minimize these, and how to monitor and manage patients based on pathology and physiologic data. Students discuss, compare, evaluate, and apply the methods for discontinuing mechanical ventilation and support spontaneous breathing. Through a variety of lecture, laboratory, and simulation, students acquire the necessary knowledge, skills, and attitudes to effectively apply mechanical ventilation to the adult and pediatric populations.

HSRT3210 PULMONARY DIAGNOSTICS
Prerequisites: HSRT2120, HSRT2320
In this course, students learn the fundamentals of pulmonary diagnostic testing using various pulmonary diagnostic assessments.

HSRT3230 CARDIOPULMONARY RESUSCITATION
Prerequisites: HSRT3120, HSRT3130, HSRT3200, HSRT3240,
In this course, students learn and demonstrate the fundamentals of advanced cardiopulmonary resuscitation for neonatal, pediatric, and adult populations.

HSRT3240 RESPIRATORY THERAPY CLINICAL APPLICATION III
Prerequisites: HSRT2330, HSRT2340
Co-requisites: HSRT3130
This course is a continuation of Respiratory Therapy Clinical Application II and is designed to further assimilate the respiratory therapy student to the clinical setting (adult pediatric and neonatal) through experience in both the simulation laboratory and hospital environment. By building on previously learned material, students further expand their knowledge and skills of respiratory therapy procedures.

HSRT3300 MECHANICAL VENTILATION III
Prerequisites: HSRT3130, HSRT3200, HSRT3240
Co-requisites: HSRT3310
Utilizing current research and best practices, this course focuses on adult, pediatric and neonatal ventilation along with advanced modes and management strategies used for the mechanically ventilated patient. Students are introduced to the following: lung recruitment maneuvers; specialty inhaled gases to treat specific disease pathologies; mechanical ventilation in the home setting; transport of the critically ill patient; and standards of apnea testing as a diagnostic tool in determining brain death.

Course Descriptions

HSRT3310 RESPIRATORY THERAPY CLINICAL APPLICATION IV

Prerequisites: HSRT3120, HSRT3130, HSRT3200, HSRT3240
Co-requisites: HSRT3300
This final Respiratory Therapy Clinical Application course gives students the opportunity to perfect their skills and knowledge before the Respiratory Therapy Practicum courses. This course is designed to further assimilate the respiratory therapy student to the adult, pediatric and neonatal clinical setting through experience in both the simulation laboratory and hospital environment. Students are expected to expand their knowledge and skills of respiratory therapy procedures and build upon previously learned material.

HSRT3330 RESPIRATORY THERAPY PRACTICUM I

Prerequisites: HSRT3300, HSRT3210, HSRT3230, HSRT3310
This course is the first of three full time clinical placements. The students apply theoretical knowledge and practical skills acquired throughout the first eight semesters of the program to real-time clinical environments. Students are expected to demonstrate independent critical thinking and assume responsibility for clinical actions and decisions. Students are expected to demonstrate positive and effective interactions with peers, preceptors, faculty, and other healthcare professionals. Students are assigned to a variety of clinical environments which focus on caring for neonatal, pediatric, and adult patients. Core values relating to professional behavior, ethical standards, communication, and safe practices are emphasized and assessed using the behavioral assessment/core values appraisal.

HSRT4200 RESPIRATORY THERAPY PRACTICUM II

Prerequisites: HSRT3330
This course is the second of three full time clinical placements. Students apply theoretical knowledge and practical skills previously acquired throughout the Respiratory Therapy Program to real-time clinical environments. Students are assigned to a variety of clinical environments which focus on caring for neonatal, pediatric, and adult patients. Core values relating to professional behavior, ethical standards, safe practices, and effective communication are emphasized and assessed using the behavioral assessment/core values appraisal. It is the expectation that skills attained during Respiratory Therapy Practicum I are performed again as opportunities present themselves. Students are expected to progress to a highly autonomous and independent role as compared to Respiratory Therapy Practicum I.

HSRT4300 RESPIRATORY THERAPY PRACTICUM III

Prerequisites: HSRT4200
This is the final clinical Respiratory Therapy Practicum course. This course enables students to integrate theories and skills acquired throughout the previous two clinical Respiratory Therapy Practicums. Students are evaluated on skills proficiency, time management, organizational skills, and decision-making at a high level of independence. Students are expected to take a lead role in providing patient care, further mastering/ refining skills necessary to function as an entry level respiratory therapist. Examinations are delivered in diverse formats including classroom/online/self-study, where learners are presented with case studies, quizzes and discussions that are emphasize the competency areas in the Canadian National Competency Framework (NCF). These examinations assist the learner in identifying specific areas of respiratory therapy knowledge where further study is required.

INFS1101 INTRODUCTION TO COMPUTING & PROBLEM SOLVING

Computers are essential tools for solving problems in today's world. This course teaches students the basics of problem solving and computer programming, focusing on understanding how solutions are designed and then programmed. Students learn to create simple programs using a user-friendly programming language. The course includes fundamental concepts such as variables, decision-making, and loops. Learning, knowledge acquisition and retention is facilitated through instructor-led lectures, practical tutorials, and hands-on labs.

INFS1201 COMPUTER PROGRAMMING

Prerequisites: INFS1101
Computer programming is crucial for tackling complex business challenges. This course lays a solid theoretical and practical foundation in procedural programming and is built upon computing and problem-solving courses. Students learn essential programming structures in terms of data types, decision-making, repetition, and built-in functions. Students also learn to create user-defined functions to develop easy-to-maintain programs. Through a combination of instructor-led lectures and hands-on labs, students practice implementing efficient algorithms to carry-out practical programming tasks.

INFS1301 COMPUTING ETHICS & SOCIETY

Ethical behavior is the foundation for professionalism at the workplace. This course empowers students to deeply analyze and understand how attitudes, values and culture profoundly influence behavior. The course provides the student with an introduction to ethics, societal norms and best practices in the Information Technology field. Through lectures and case studies, students are trained to make informed judgments in computing practice based on code of ethics and related laws and regulations.

INFS2101 WEB TECHNOLOGIES I

Prerequisites: INFS1201
Web development combines logic and creativity, allowing for the design and creation of new experiences and interfaces. This course introduces fundamental concepts of Web design using markup languages and cascade stylesheets. Students are introduced to basic Web development prior to moving on to building complete websites. Students also explore the design of interactive Web forms along with enhancing the Web design using cascading stylesheets effectively and client-side scripting. Through a combination of instructor-led lectures and hands-on labs, students practice designing and developing Web applications.

INFS2201 DATABASE MANAGEMENT SYSTEMS

Prerequisites: INFS1201
Databases are used to store information about everything from financial transaction to social media posts. This course introduces students to the fundamentals and principles of Database Management Systems (DBMS) with a focus on the design and implementation of relational and non-relational databases. Instructor-led lectures, practical tutorials, and hands-on labs facilitate learning, knowledge acquisition and retention.

Course Descriptions

INFS3102 OBJECT ORIENTED PROGRAMMING
Prerequisites: INFS1201
Object-oriented programming (OOP) is a cornerstone of modern software development. This course dives into the core principles of OOP where students explore key concepts such as classes, objects, inheritance, polymorphism, encapsulation, and design patterns, all framed within the context of a contemporary object-oriented language. Through lectures, hands-on coding, and design exercises, learners gain proficiency in building robust and maintainable software systems using OOP best practices.

INFS3103 SYSTEMS ANALYSIS & DESIGN
Prerequisites: INFS2201
Understanding and designing efficient information systems are fundamental in today's tech-driven landscape. This course examines the system's life cycle, emphasizing the critical stages of analysis and design, while transforming users' functional and non-functional requirements into actionable models through leading-edge modeling techniques. The course also guides students to explore the integration of emerging technologies, such as Mobile, Web and modern AI applications into systems' design. Students employ agile methodologies to design systems subject to change. Instructor-led lectures, practical tutorials, and hands-on labs facilitate learning and knowledge acquisition and retention.

INFS3104 DATA STRUCTURES & ALGORITHMS
Prerequisites: (INFS3102 & DACS2101) OR (INFS3102 & INFT2102)
Data structures and algorithms are one of the pillars of software systems. The course provides students with the essential knowledge and skills to understand data structures in preparation for designing and developing efficient software applications. This course explores different data structures, such as queues, lists, and graphs, along with the assessment of the complexity of the programs implementing the data structures. This course distinguishes among static, dynamic, linear, and hierarchal data structures. Students learn how to choose suitable data structures, analyze, develop, and evaluate algorithms for a variety of problems, such as searching, and tree traversal, in addition to graph theory and its application. Instructor-led lectures and hands-on labs facilitate learning, knowledge acquisition and retention.

INFS3201 WEB TECHNOLOGIES II
Prerequisites: INFS2101, INFS2201, INFS3102
Understanding and mastering web technologies is essential for creating innovative, scalable, and efficient online platforms. This course examines advanced concepts and techniques in the design and development of Web applications with a focus on the server side to process and store data. Current industry standard languages, software architectures, design patterns, and development frameworks are presented in the course along with case studies. Through a combination of instructor-led lectures and hands-on labs, students practice designing and developing advanced Web applications.

INFS3202 IT SYSTEMS INTEGRATION
Prerequisites: INFS3102, INFS3103
In the internet era, it is important to apply system integration so that data can flow between different information systems seamlessly. This course focuses on the process of integrating various systems and software applications, through the examination of current and new trends and approaches for efficient design of systems integration solutions. Instructor-led lectures and hands-on labs facilitate learning, knowledge acquisition and retention.

INFS3203 SYSTEMS DEPLOYMENT & IMPLEMENTATION
Prerequisites: INFS3103
In today's fast-paced tech environment, mastering DevOps, agile methodologies, and Continuous Integration/Continuous Delivery (CI/CD) pipelines is essential. This course provides a deep dive into these modern approaches, emphasizing their significance in efficient systems deployment and implementation. Students explore the principles of DevOps, the flexibility of agile, and the automation benefits of CI/CD. As part of the curriculum, students collaborate on a project, fostering professional code of conduct, teamwork, and communication skills, which culminates in a comprehensive presentation. Through a blend of lectures, hands-on exercises, and group discussions, learners not only grasp the theoretical aspects but also gain practical experience in these pivotal areas of systems deployment.

INFS3301 HUMAN COMPUTER INTERACTION
Prerequisites: INFS1201
Learning about human computer interaction (HCI) helps us understand how to make technology more accessible and intuitive. This course examines the concepts and foundations of human-computer interaction emphasizing the facilitation of effective user interactions with software. The course explores the processes of interface design, implementation, and evaluation, considering human perception and cognition. Through a combination of instructor-led lectures and hands-on labs, students adopt HCI best practices.

INFS4101 IS MANAGEMENT & STRATEGY
Prerequisites: INFS3103
The role of information technology (IT) management in overseeing and optimizing information technology infrastructure has never been more critical. This course introduces students to the main challenges that IT managers face in selecting, using, and managing information technology infrastructure. The course also covers the latest developments in information technology infrastructure like mobile and cloud computing. Through a combination of instructor-led lectures and hands-on labs, students practice information systems (IS) management and strategy.

INFS4102 DESKTOP APPLICATION DEVELOPMENT
Prerequisites: INFS3102
Desktop application development addresses the evolving need for user-friendly and efficient software tools in various industries. This course explores the creation of cross-platform desktop applications, using modern frameworks, languages, and best practices, including database integration. Hands-on projects enable students to design apps that address business issues, building expertise they can apply to real-world problems. Through a combination of instructor-led lectures and hands-on labs, students practice designing and developing desktop applications.

INFS4103 UI/UX DESIGN
Prerequisites: INFS3201
User interface / user experience (UI/UX) design is a crucial skill in the modern digital landscape, providing vital tools for innovation and problem-solving. This course explores theoretical and practical aspects of UI/UX design and gives students the opportunity to research, implement, and refine UI/UX designs using selected modern industry-standard UI frameworks. The course combines instructor-led lectures and hands-on lab sessions and projects.

Course Descriptions

INFS4104 MOBILE APP TECHNOLOGIES
Prerequisites: INFS4103 OR (INFS3201 & INFS3301)
This course is vital for equipping students with essential skills in mobile app development to meet the demands of the modern technology landscape. The course explores mobile development lifecycle with focus on the stages that support the design, development, testing, and installation of mobile apps. The course also allows students to compare different techniques to develop native, Web, hybrid (mobile Web), or cross-platform apps. This development requires using specific mobile Application Programming Interfaces (APIs) for accessing device functions such as camera roll, video recording, and GPS. Additional topics in the course include mobile navigation, view management, interface design, and User Interface (UI) layout. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively manage complete lifecycle of mobile apps.

INFS4105 ADVANCED DATABASE MANAGEMENT
Prerequisites: INFS3201
Data availability is critical for all organizations that would like to have an online presence. This course examines transactional processing over distributed databases, construction of high availability clusters, and replication along with understanding the link between On-Line Transaction Processing (OLTP) to data warehousing. Through configuration of virtual servers, students configure multiple database nodes for high availability purposes. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively administer database applications.

INFS4202 SOFTWARE TESTING & QUALITY ASSURANCE
Prerequisites: INFS3103
Making sure that the developed software aligns with both functional and non-functional requirements is crucial. This course provides students with the essential techniques and tools for upholding quality assurance at various levels of software development, including module, subsystem, and system levels. The course includes examining cost-effective strategies in software testing, testing practices for both functional and non-functional criteria, and ensuring the reliability and efficiency of software systems. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively practice designing and developing applications with assured quality.

INFS4205 SELECTED TOPICS IN INFORMATION SYSTEMS
Prerequisites: INFS4104
In the fast-paced world of technology, staying ahead of emerging trends and innovations is essential for developing solutions that meet contemporary needs. Students explore emerging trends and innovations in Information Systems (IS) with a spotlight on mobile device and application technology. The course is designed to provide exposure to cutting-edge techniques and technologies pivotal in the development of mobile devices and applications. Students engage with selected topics that offer depth and insight into the rapidly evolving landscape of IS, gaining hands-on experience by implementing these technologies in cross-platform applications, tailored for real-world scenarios.

INFS4206 NATIVE APP TECHNOLOGIES
Prerequisites: INFS4104
Essential skills in native mobile app development are crucial in the modern technology landscape. The course exposes students to the principles and foundations of native mobile apps development. The course examines different types of wireframes in layout planning, content organization, navigation, and early visualization. Students apply programming concepts to develop native mobile apps that could be powered by backend solutions. Testing, publishing, and monetizing mobile apps are also explored in the course. Through lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively apply the techniques underpinning native mobile apps.

INFT1201 COMPUTER HARDWARE
This course provides students with an understanding of the key hardware components that constitute modern computer systems. On top of focusing on the technical specifications and features of computer hardware, the course also exemplifies these specifications and features with real-world applications and implications for computing performance. Through a combination of theory-based lectures and hands-on lab experiences, students gain insights into computer system hardware components.

INFT2101 NETWORKING I
Prerequisites: INFT1201 OR Min 16 Credits
This course introduces students to the fundamental concepts and management principles of computer networks including the Internet. It provides an overview of network architectures, applications, communication protocols' reference models, and TCP/IP protocol suite. Additional concepts like data transmission, multiple access, wireless networks, addressing, and network subnetting and routing are also discussed in the course. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to design, configure, and troubleshoot computer networks of small size.

INFT2102 MATHEMATICS FOR IT
Prerequisites: INFS1101
This course introduces students to fundamental mathematics and discrete structures required for computing and IT. It illustrates how to develop a math foundation for Information Technology to aid in the development of the student's use of problem-solving techniques necessary for Information Technology. Students learn to analyze problems related to discrete structures and find correct solutions backed by Boolean algebra, sets, functions, numeral systems, logic gates and simple combinational circuits, relations, graphs and trees, Mathematical Models, and regular expressions. Through a variety of lectures, tutorials and exercises, students acquire the necessary knowledge and skills to effectively apply fundamental mathematics and discrete structures to model and solve Information Systems and Technology problems.

INFT2103 NETWORK IMPLEMENTATION
Prerequisites: INFT2101
This course builds upon the basic networking skills developed in the first year by equipping students with technical knowledge and good practices for network design and implementation. This consists of reviewing and improving knowledge of OSI and TCP/IP models, implementing Virtual Local Area Networks (VLANs) and trunking. Moreover, the student experiment with deploying and troubleshooting inter-VLAN routing and exploring Spanning Tree Protocol (STP) using simulation software and also real equipment. Also, the course introduces the static and dynamic routing concepts. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively apply networking concepts, principles, and techniques.

Course Descriptions

INFT2104 SYSTEM ADMINISTRATION
Prerequisites: INFT2101
This foundational course is tailored to introduce students to essential knowledge in IT system administration. It imparts fundamental skills in managing and navigating server environment. Students practice critical elements such as the architecture and capabilities of Active Directory (AD), underscoring its crucial function in the administration and safeguarding of an organization's IT infrastructure. This encompasses an exploring domains, trees, and forests, alongside competencies in overseeing user and computer accounts within a network setting. The curriculum elaborates on pivotal concepts including organizational units (Ous), group policies, and the seamless integration of AD with the Domain Name System (DNS). Through a series of lectures, labs and projects, students acquire the necessary knowledge and skills to effectively deploy system administration techniques.

INFT2201 INTRODUCTION TO OPERATING SYSTEMS
Prerequisites: INFS1201, (INFT1201 OR SOFT230)
Understanding the core of computer functionality is essential in the digital era. This course provides a comprehensive overview of computer operating systems, covering topics such as process synchronization, resource management, virtual memory, file systems, and I/O operations. Through lectures and hands-on sessions, students grasp both theoretical principles and practical applications, engaging with popular environments and basic programming tasks.

INFT2202 LINUX FOUNDATIONS
Prerequisites: INFT2101
Linux operating system, is an essential subject for modern computing environments. The course demonstrates the operating systems fundamentals. Students apply the operating concepts within the Linux system environment. They experiment with the system installation, command-line operations, file management, and shell scripting. In addition, the course emphasizes system administration skills, including user management, security basics, and network configuration. Through hands-on labs, students not only explain theoretical aspects of an operating system but also apply technical skills in real-world scenarios, mastering essential Linux administration and troubleshooting tasks.

INFT2203 NETWORK DESIGN
Prerequisites: INFT2103
Building on the foundational knowledge in networking, this course advances students' skills in network configuration and management, focusing on routing protocols, DHCP, transport layer protocols, and network redundancy. Students apply and troubleshoot static and dynamic routing protocols, configure DHCP for efficient IP management, and compare transport layer protocols for reliable data transmission. Additionally, the course covers network redundancy protocols to enhance network reliability. The course combines lectures, practical labs, and group tasks where the students use both simulation and real hardware to implement and manage advanced network solutions, ensuring optimized network performance and reliability.

INFT2204 ENTERPRISE SERVICES
Prerequisites: INFT2104, INFT2202
This course provides the students with the advanced conceptual design knowledge and applied skills to align IT infrastructure with enterprise server administration requirements. The students identify key performance indicators related to security, availability and efficiency. Then, they identify and implement suitable technologies and protocols towards reliable, secure and scalable enterprise systems across multi platforms. Through hands-on labs, lectures, and group assignments, students apply system administration techniques while being able to integrate network services.

INFT3101 NETWORKING II
Prerequisites: INFT2101
This course builds upon networking skills by equipping students with essential technical knowledge and skills for network design and implementation. This consists of reviewing and enhancing OSI model knowledge, implementing Virtual Local Area Networks (VLANs) and trunking, troubleshooting inter-VLAN routing, exploring Spanning tree Protocol (STP), layer 2 and layer 3 redundancy protocols (e.g., Etherchannel and FHRP), and comparing static and dynamic routing. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively apply advanced networking concepts, principles, and techniques.

INFT3102 NETWORK PROGRAMMING
Prerequisites: INFS1201, INFT2202
Programmability is a crucial subject for new generation networks. This course allows students to analyze, design, and implement programs that automate system and network tasks, including infrastructure configuration and services deployment. The course uses programming libraries to call application programming interfaces (APIs) dedicated to network management and web services. Students also learn how to develop socket-based client-server programs using specialized protocols and libraries to access networking devices. They deploy sniffing and spoofing techniques and explain network protocols vulnerabilities. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively understand and apply network programmability techniques.

INFT3201 SYSTEM INTEGRATION & ADMINISTRATION
Prerequisites: INFT2101, INFT2202
Designed to address the growing need for seamless integration between IT infrastructure and enterprise strategy, this course covers the foundational principles of enterprise network design, Active Directory management, and network security. Students will explore key topics such as hierarchical enterprise architectures, muti-platform (i.e., operating systems) services, and redundancy technologies. Through hands-on labs, lectures, and group assignments, students apply best practices to design, implement, and administer secure, scalable, and efficient enterprise servers.

INFT3202 CLOUD COMPUTING
Prerequisites: INFT2101, INFT2202
Cloud computing is the on-demand provisioning of IT resources as services over the Internet. This helps organizations cut costs and reduce on-premises IT resources. This course introduces students to concepts and fundamentals of cloud computing in terms of service models, payment options, and deployment strategies. The course also engages students in implementing an IT infrastructure using cloud computing services, monitoring and optimizing cloud deployment, and virtualizing IT resources. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively understand the role of cloud computing for organizations.

INFT3203 WEB SERVER MANAGEMENT
Prerequisites: INFS2101, INFT2202
All websites and most mobile phone applications interact with web application servers. The proper configuration of a web server is critical for these applications so that data is processed quickly and securely. This course introduces the management of the most common web server applications and how these applications interact with the back-end scripting language and databases. The course also details important web related information such as Domain Name System (DNS) servers and Secure Sockets Layer (SSL) certificates. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge and skills to effectively deploy, configure, test, and maintain web servers.

Course Descriptions

INFT3301 IT SERVICE MANAGEMENT
Prerequisites: INFS1101, INFT2101
This course addresses the growing demand for comprehensive knowledge in managing and optimizing IT services. It delves into the entire IT service lifecycle, encompassing design, creation, delivery, support, and management. Moreover, it explores the service management concepts and ethical codes. In particular, it demonstrates IT Governance Framework and integrates AI techniques, through a variety of lectures and practical sessions, students acquire the necessary knowledge, skills, and attitudes to effectively Manage an IT society.

INFT4103 SOFTWARE DEFINED NETWORKING
Prerequisites: INFT3101, INFT3202, INFT3203
This course introduces students to Software-Defined Networking (SDN) concepts and fundamentals. The students gain insights into diverse SDN components, so they experiment with SDN controllers and orchestration guaranteeing centralized management and automation. Students also explore southbound interfaces such as Openflow and northbound interfaces like gRPC and RestFul, as well as intent based SDN management. The students apply virtualization technologies to set up SDN based large scale topologies and discuss the integration of SDN into mobile access network (e.g., 5G). Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively use SDN when designing and managing complex networks.

INFT4104 SELECTED TOPICS IN IT
Prerequisites: INFT3101
This course covers new trends in IT infrastructure that arise from the natural evolution of the field. Topics are chosen by the instructor with the aim of exposing the student to new and/or evolving techniques and/or technologies used in the design and maintenance of the IT infrastructure. Students learn through a series of lectures, case studies, and practical activities.

INFT4105 WIRELESS NETWORKS
Prerequisites: INFT3101
This course introduces students to wireless communication technologies. This includes gaining insights into the foundational principles of wireless communications, demystifying how Radio Frequency (RF) signals carry data across airwaves, understanding modulation, encoding, and multiplexing, and exploring how devices access shared wireless channels. Additionally, the course covers Wireless Local Area Network (WLAN) architecture, secure and scalable wireless networks design, and best practices for safeguarding wireless networks against threats. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively manage wireless networks.

INFT4106 COMPUTER NETWORK PROTOCOLS
Prerequisites: INFT3101
The imperative shift from IPv4 to IPv6 across network protocols arises from the pressing need to accommodate the growing number of connected devices. IPv4's limited address space cannot sustain the expanding demand, making IPv6 crucial for future scalability. This course provides students with the knowledge and skills needed to implement and configure the different network protocols based on IPv6 addressing. The students describe IPv6 operations, addressing, routing, services, and transition. Also, students apply cybersecurity techniques through open-source tools to detect, analyze, and escalate basic cybersecurity threats within a particular configuration of multiple network protocols. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively understand and apply the shift to IPv6 with the common network protocols.

INFT4107 VIRTUALIZATION TECHNOLOGIES
Prerequisites: INFT3101, INFT3102, INFT3202
Virtualization is an enabling technology for cloud computing that is revolutionizing storage, access, and data processing. This course provides students with a foundation in implementing software-defined data centers through virtualization. This allows students to make better choices when administering a data center and designing cloud-based systems. Topics include virtual machine management, virtual networking and security components, load balancing, virtual storage, resource monitoring, automated management, and deployment of components, and implementing high availability. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively design, implement, and monitor virtualized infrastructure.

INFT4108 CLOUD AUTOMATION & ORCHESTRATION
Prerequisites: INFT3102, INFT3202, INFT3203
This course covers the concepts of automation in cloud computing environments. Students learn how to manage containers and develop systems to deploy containerized systems. Topics include managing containers, container networks, remote management, maintaining a cloud cluster, and creating an automated deployment pipeline.

INFT4201 ENTERPRISE TECHNOLOGY
Prerequisites: INFT3201
This course empowers students with advanced tools and strategies for enterprise-level server and systems administration. Students are exposed to advanced server management techniques, including Windows Active Directory, file server management, disk management strategies, advanced Linux management techniques, cross-platform server integration, and scripting for server administration. A combination of hands-on labs, lectures, and team-based assignments equips students with the appropriate skills to optimize directory features, design efficient enterprise systems, manage files and disks effectively, and automate server tasks across platforms.

INFT4203 NETWORK MANAGEMENT
Prerequisites: INFT3101
This course introduces students to essential network management principles in terms of centralized and distributed management protocols, including Link Layer Discovery Protocol (LLDP) and Simple Network Management Protocol (SNMP). Students also apply proper techniques to secure remote access, enforce switch port security, use Access Control Lists (ACLs), and apply to ensure network stability and high availability. Also, students experiment with different backup management strategies. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively apply advanced networking management concepts, principles, and techniques.

INFT4208 GOVERNANCE & MANAGEMENT OF IT
Prerequisites: INFT3101
IT governance is crucial for aligning IT strategy with business objectives, ensuring that technology investments deliver the maximum possible value while minimizing risks. This course equips students with a comprehensive understanding of the frameworks, best practices, and strategies that underpin effective IT governance and management within organizations. Proper IT governance ensures an effective evaluation, selection, and prioritization of IT investments. The course also discusses IT management, implementation, risk assessment, and performance issues. Through a variety of lectures and hands-on labs, students acquire the necessary knowledge, skills, and attitudes to effectively apply the concepts and principles underpinning IT governance and management.

Course Descriptions

LSCM1001PRINCIPLES OF LOGISTICS & SUPPLY CHAIN

This course equips students with the knowledge and skills required to optimize the movement of goods and services from point of origin to final consumption. Through a blend of theoretical exploration and practical application, students explore the integration of key logistical activities such as transportation, warehousing, inventory management, and order fulfillment within the broader context of supply chain optimization. Furthermore, students explore cases and engage in practical exercises to develop a holistic perspective on the complexities and challenges of global supply chain operations.

LSCM2010 OPERATIONS MANAGEMENT

Prerequisites: LSCM1001

In this course students are exposed to foundations of operations management and the associated tools and techniques to improve organizational processes, systems and procedures. Students learn different aspects of business operations such as product and service design, scheduling, capacity planning and location analysis, work design and measurements, inventory management and quality control techniques to make effective decisions. Students develop critical thinking, problem solving and decision-making skills by completing team-based activities, case study analysis and hands-on projects.

LSCM3010 SUPPLY CHAIN PLANNING & CONTROL

Prerequisites: BUSG2002, LSCM1001

This course explores the characteristics of effective supply chain management. Students explore topics such as demand forecasting, inventory management, and production planning techniques required for optimizing operational efficiency. The key concepts revolve around procurement, distribution, and order fulfillment, allowing learners to create agile and responsive supply chains. Experiential learning such as applied case studies and simulations support learners in improving their decision-making skills in dynamic supply chain environments. Technology-based applications such as ERP systems and demand planning software are integrated in the course so that learners are prepared to design and implement robust supply chain planning and control mechanisms.

LSCM3020 TRANSPORT & LOGISTICS MANAGEMENT

Prerequisites: LSCM1001

This course provides a detailed exploration of the intricate processes and strategic decision-making involved in the efficient movement of goods and services within the global marketplace. Emphasizing the critical role of transportation networks and supply chain logistics, this course equips students with the necessary theoretical knowledge and practical skills to analyze, design, and manage robust transportation systems and logistics strategies. Through a combination of case studies, industry insights, and hands-on projects, students gain a comprehensive understanding of the complexities, challenges, and emerging trends in the field of transport and logistics management.

LSCM3030 STRATEGIC SOURCING & PROCUREMENT

Prerequisites: LSCM3010

This undergraduate course delves into the critical functions of strategic sourcing and procurement within modern businesses. Students gain a comprehensive understanding of the strategic processes involved in acquiring goods and services, including supplier selection, negotiation, and contract management. Through case studies and real-world scenarios, learners explore cost-effective procurement strategies, risk management, ethical considerations, and global sourcing trends. Emphasizing the integration of sustainability and technology, this course equips students with the skills to optimize supply chains, reduce costs, and maximize supplier relationships. The course prepares students to contribute to organizational success through effective procurement and sourcing practices.

LSCM3040 LEGAL ENVIRONMENT & SUPPLY CHAIN CONTRACTS

Prerequisites: BUSG2010

This course is an essential examination of the legal factors governing supply chain management and operations. Students explore the contract law standards related to supply chain management, including the initiation, negotiation, and administration of contract agreements. Through applied case studies, learners identify and mitigate the legal risks related to procurement, logistics, and relationships with intermediaries. The major topics to be addressed in this course revolve around risk mitigation, compliance, and conflict resolution in various supply chain configurations. Students develop a comprehensive knowledge of the legal environment, enabling them to identify the contractual complexities and enhance compliance in the context of supply chain management.

LSCM3050 WAREHOUSING & INVENTORY MANAGEMENT PREREQUISITES: LSCM2010

This course prepares students to explore the strategic realm of warehousing and inventory management. Students learn the intricacies of inventory optimization, demand forecasting, efficient storage methods and lean inventory practices. Students are involved in applied projects to gain expertise in designing and managing warehouse operations, with a special emphasize on safety protocols, warehouse layout and design and cutting-edge ergonomics technologies.

LSCM4010 SUPPLY CHAIN MODELLING & ANALYTICS

Prerequisites: LSCM3010

Integration of data driven technologies is key to optimizing the supply chain process. In this course, students use applied statistical techniques, predictive analytics, and optimization tools to improve decision-making across procurement, operations, and distribution. Applied case studies and other experiential learning methods help learners gain proficiency in using key analytics tools to interpret complex supply chain data, forecast demand, and streamline logistical flows and activities. The major topics help learners identify and tackle real-world challenges, in addition to designing and implementing effective supply chain models. At the end of the course, students are able to leverage supply chain analytics for improving logistical performance.

LSCM4020 TECHNOLOGY MANAGEMENT IN LOGISTICS & SUPPLY CHAIN

Prerequisites: MISY2010

The application of technology management in logistics and supply chain disciplines involves the operational and strategic integration of technologies to enhance efficiency and visibility. This course includes systems for inventory management, transportation optimization, and warehouse automation, all of which streamline operations to improve efficiency and reduce costs. Decision making needs to be driven by data analytics and AI-driven forecasting for improvement, while real-time tracking using tools such as IoT and blockchain can be a strong leverage. The major topics of the course revolve around automation, robotics, and sustainability efforts to reduce supply-chain costs and can be used to lessen the environmental impact of logistics. Effective communication tools and robust cybersecurity are pivotal in carrying out the function and to provide confidence with external and internal stakeholders.

Course Descriptions

LSCM4030 DATA DRIVEN DECISION MAKING
Prerequisites: LSCM4010
The main purpose of this course is to integrate data-driven technologies in order to optimize supply chain processes. Students use applied statistical techniques, predictive analytics, and optimization tools, to improve decision-making across procurement, operations, and distribution. Applied case studies and other experiential learning methods support learners in gaining proficiency in using key analytics tools to interpret complex supply chain data, forecast demand, and streamline logistical flows and activities. The major topics help learners identify and address real-world challenges in addition to designing and implementing effective supply chain models. At the end of the course, students are able to leverage supply chain analytics for improving logistical performance.

LSCM4040 SUSTAINABLE PRACTICES IN LOGISTICS & SUPPLY CHAIN
Prerequisites: LSCM3010, LSCM3030
Sustainable practices in logistics and supply chain management are crucial for long-term success in current dynamic environments. The main topics of this course revolve around the principles of eco-friendly transportation, inventory optimization, and waste reduction required to configure responsible and environmental supply chains. This course helps students better understand the evolving landscape of sustainable logistics, nurture innovation and resilience in the face of environmental challenges and achieve a sustainable competitive advantage. Real-life examples and case studies support students' ability to formulate and implement successful sustainability strategies in global logistics and supply chain management. Concepts such as green packaging, energy-efficient distribution, and emission-free transportation will be heavily explored and discussed.

LSCM4081 MARITIME & PORTS MANAGEMENT
This course offers a holistic understanding of the maritime sector, equipping students with the knowledge and skills needed to navigate the complexities of ports and terminal management. Students learn maritime law, relevant legal systems and processes, and their implications while exploring the critical aspects of sustainable development in the global maritime industry. This course prepares students to enter a rewarding career in maritime and ports management. Applied projects, site visits, and case studies help students become knowledgeable of the maritime industry and port managerial and technical practices and decisions.

LSCM4082 MARINE ECONOMICS & INTERNATIONAL TRADE
Prerequisites: ECON2010
This course examines the world of global trade through Marine Economics including a comprehensive examination of the economic principles governing the maritime industry, trade patterns, and shipping standards. Major topics include port operations, maritime logistics, and the role of marine economics in shaping global trade relations. Trade finance including incoterms, risk management, and regulatory frameworks specific to maritime sectors are also explored. By the end of the course end, students possess an understanding of the dynamics of international trade via marine routes such lake, river, sea, and ocean transportation modes.

LSCM4083 MARINE INSURANCE
This course provides a comprehensive overview of marine insurance, covering key principles, policies, and practices in the maritime industry. Students examine topics such as hull insurance, cargo insurance, and liability coverage. The course explores international regulations, risk assessment, and underwriting processes specific to maritime operations. Emphasis is placed on case studies to enhance practical understanding. Additionally, students analyze emerging trends, technological advancements, and the impact of the rapidly changing field of global trade and its impact on marine insurance. By the end of the course, students demonstrate a solid foundation in managing risks and claims within the dynamic realm of marine insurance.

LSCM4084 SHIPBROKING & CHATTERED VESSEL OPERATIONS
Prerequisites: LSCM2010
This course enables students to master the art and science of efficient vessel chartering through a comprehensive exploration of shipbroking and chartering operations. While covering the details of maritime partnering, the course focuses on the critical roles of shipbrokers and charterers. Students develop knowledge in negotiating vessel charters, contract formulation, risk assessment, and market analysis. Exploring the complexities of freight markets and analyzing supply and demand dynamics in the maritime industry are at the core of this course. Students also develop practical skills in shipbroking, understand vessel operations, and make informed decisions in the dynamic and competitive landscape of global shipping.

MACC5110 ADVANCED DIAGNOSTICS
Co-requisites: MACC5120
Critical care paramedics must be able to interpret results from biological tests and measurements in order to provide the appropriate care to patients. Classroom and lecture- based activities are used to reinforce students' understand- ing of advanced diagnostic procedures and prepare them to incorporate diagnostic test results into clinical decision-making.

MACC5120 ADVANCED PATIENT MANAGEMENT I
Co-requisites: MACC5110
Critical care paramedics must be able to manage complex life-threatening emergencies while on the job. This is the first of two courses which provide students with the knowledge and skills necessary to provide an advanced level of care to patients who present with complex life-threatening conditions. In this lecture and lab-based course, students demonstrate the holistic management of the most challenging aspects of airway management and disorders of the respiratory, cardiovascular, and neurological systems.

MACC5210 RESEARCH DESIGN & METHODS
Prerequisites: AHHG2030
The ability to analyze research is a core competency for health care professionals to provide advanced evidence-based care. In this course, students develop an in-depth understanding of research methods such as quantitative, experimental, qualitative, and mixed methods. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to support the development and planning of their thesis or professional project.

Course Descriptions

MACC5220 CRITICAL CARE TRANSPORT
Prerequisites: MACC5110, MACC5120
Co-requisites: MACC5230
An integral part of critical care paramedicine is the management of patients who require ongoing medical intervention during transport to or between medical facilities. This combined lecture and lab course provides students with the knowledge and skills necessary to apply clinical decision-making skills in patent transportation. Students learn the suitable means to safely transport high acuity patients for various circumstances and how to provide the necessary patient care throughout the transport.

MACC5230 ADVANCED CLINICAL INTEGRATION I
Prerequisites: MACC5110, MACC5120
Co-requisites: MACC5220
Participating in simulated medical emergencies helps to enhance a critical care paramedic's knowledge, skills, and decision-making capacity. This course combines laboratory and clinical placements to provide students the opportunity to develop and apply the affective and psychomotor skills necessary for the management of high-acuity patients. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory, and they apply the learned skills to real-world patient care within various critical-care settings.

MACC5300 INTENSIVE CARE PRACTICUM
Prerequisites: MACC5220, MACC5230
Integrating the skills and knowledge from the classroom and lab environment to clinical practice is an essential part of developing the proficiency required for independent practice. In this course, students attend a variety of clinical rotations where they demonstrate the application of learned skills to real-world patient care within the intensive care setting under the supervision of healthcare providers from the clinical sites.

MACC6100 GRADUATE RESEARCH PROJECT I
Prerequisites: MACC5210
Graduate students require advanced research skills in order to prepare a quality dissertation (which can be a thesis or research project). In this course, students integrate theoretical and professional knowledge with research methodologies to develop a thesis or project that addresses research questions pertaining to the health care field. Through supervised and structured mentoring sessions, students prepare a research proposal, conduct a literature review, and begin working on their research project or thesis.

MACC6110 ADVANCED PATIENT MANAGEMENT II
Prerequisites: MACC5300
Co-requisites: MACC6120
Critical care paramedics must possess advanced skills to manage, diagnose, and treat complex life-threatening emergencies. This is the second of two courses which provide students with the knowledge and skills necessary to deliver an advanced level of care to patients who present with complex medical conditions. In this lecture and lab-based course, students demonstrate the holistic management of the most challenging aspects of pain management, traumatic injuries, and pediatric emergencies.

MACC6120 EXTENDED CARE PRINCIPLES & PRACTICES
Prerequisites: MACC5300
Co-requisites: MACC6110
Critical care paramedics engage with the public to promote community health and well-being. This course introduces students to a model of primary health care provision by paramedics and paramedical services. Students explore the concepts of "extended care" and "community paramedicine" and examine how extended care systems differ from traditional paramedic services. Through a combination of lectures and practical labs, students gain the knowledge and skills necessary to provide preventative and curative services within a multidisciplinary community care program.

MACC6200 GRADUATE RESEARCH PROJECT II
Prerequisites: MACC6100
Graduate students are required to submit a quality written dissertation and conduct an oral presentation in order to successfully complete the program. In this course, students continue to refine their professional project or thesis. Through supervised and structured mentoring sessions, students complete their final dissertation and present their work to a review team.

MACC6210 ADVANCED CLINICAL INTEGRATION II
Prerequisites: MACC6110, MACC6120
Demonstrating professionalism and high-level performance is mandatory for critical care paramedic students working in the community. This clinical course is intended to provide students the opportunity to apply the extended care practice principles learned in the previous semester. Students participate with qualified practitioners in the provision of community- or home-based care, patient education, and health promotion activities.

MACC6300 CRITICAL CARE PARAMEDICINE PRECEPTORSHIP
Prerequisites: MACC6210
A preceptorship ensures that Critical Care Paramedicine program students meet all required competencies upon graduation. This full-time field preceptorship is designed to provide students with the opportunity to synthesize and apply the knowledge, skills, and abilities developed throughout the program. Under the supervision of a qualified preceptor, students integrate the full scope of paramedic competencies. Throughout their rotations, they are exposed to a variety of environments and situations and attend a variety of shifts to ensure that they are exposed to the conditions in which they will be working after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

MADC5000 DIABETES CARE CALCULATIONS
Diabetes care warrants early diagnosis and prompt management and intervention. This course covers a wide range of topics that address diabetes care calculations. Students become familiar with calculations related to medical nutrition therapy, blood glucose lowering agents, insulin therapy, and special populations. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

Course Descriptions

MADC5110 ORGANIZATION OF DIABETES CARE
Evidence-based Diabetes Care is fundamental to improving the health and wellbeing of people living with diabetes. This course covers a wide range of key aspects related to the organization of diabetes care and education in line with national and international standards and guidelines. Students develop in-depth understanding of the Chronic Care Model and its components, clinical information systems used in diabetes assessment and management, the role of the multidisciplinary team, telehealth, and emerging models of diabetes care. Students attend lectures and participate in group activities, discussions, and presentations with the goal of students to having a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5120 TEACHING & LEARNING PRACTICE IN DSME PROGRAMS
Diabetes Self-Management Education (DSME) programs are instrumental in providing structured education for patients to manage their condition effectively on a daily basis. This course covers a wide range of key aspects related to teaching and learning practice in Diabetes Self-Management (DSME) Programs that are in line with national and international standards and guidelines. Students develop in-depth understanding of various key topics such as adult learning theories and principles, behavior change models, self-efficacy, social cognitive theory, health belief model, cognitive behavioral interventions, and psychosocial and behavioral approaches. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5130 DIABETES PREVENTION & HEALTH PROMOTION
The International Diabetes Federation highlights the importance of promoting awareness in the community about the prevention of diabetes and cardiometabolic conditions. This course covers a range of key aspects related to diabetes prevention and health promotion. Students develop in-depth understanding of various key topics such as principles of health promotion, lifestyle medicine and diabetes prevention, weight management, obesity and diabetes, and prevention of cardiometabolic conditions. Students attend lectures and participate in group activities, discussions, and presentations with the goal of building a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5140 CLINICAL ASPECTS OF DIABETES CARE
Evidence-based diabetes care is fundamental in improving the health and wellbeing of people living with diabetes. This course explores a wide range of clinical aspects of diabetes care and education. Students develop in-depth understanding of the underlying pathophysiology of diabetes as well as key aspects of its diagnosis, classification, and presentation. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5150 DIABETES MANAGEMENT I: NUTRITION & PHYSICAL ACTIVITY
The principles of lifestyle modifications lead to significant short-term and long-term health benefits for people living with diabetes. This course covers a range of evidence-based topics addressing strategies to assist people living with diabetes achieve key lifestyle modifications targets. Students develop an in-depth understanding of the basic principles of a healthy diet and nutritional assessments, use of clinical data in setting dietary goals, nutrition- related needs of people with different types of diabetes, benefits of physical activity and interval training, and minimizing risk of exercise-related adverse events. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5210 DIABETES MANAGEMENT II: PHARMACOTHERAPY & TECHNOLOGY
Prerequisites: MADC5150
The International Diabetes Federation highlights the importance of pharmacotherapy, as key treatment modality in the effective management of diabetes. In this course, students develop an in-depth understanding of the evidence-based pharmacological treatment recommendations for the management of Type 1 and Type 2 diabetes. This includes key aspects of the agents' therapeutic classes, mechanisms of action, side effects, precautions, contraindications, and drug interactions. Students also develop skills that support their ability to engage in practical teaching and evaluation strategies of a diabetes therapeutic plan for newly diagnosed patients. Students develop a diabetes self-management education plan for patients and demonstrate competence with the use of emerging diabetes technologies and devices with the goal of building a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5220 PEDIATRIC & ADOLESCENT DIABETES EDUCATION
Prerequisites: MADC5110, MADC5120, MADC5130, MADC5140, MADC5150
A recent dramatic increase in the prevalence of pediatric and adolescent diabetes requires specialized knowledge and skills in the delivery of diabetes self-management education to patients and their family members. This course covers a wide range of evidence-based topics addressing the clinical management and the delivery of pediatric diabetes education. Students develop an in-depth understanding of the impact of age, growth, psychosocial influences, development, and maturity of diabetes care. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5230 DIABETES IN SPECIAL POPULATIONS
Prerequisites: MADC5110, MADC5120, MADC5130, MADC5140, MADC5150
Diabetes in special populations warrants early diagnosis and prompt management and intervention. This course covers a wide range of evidence-based topics addressing the pharmacological and non-pharmacological management of diabetes in pregnancy, geriatric patients, and those undergoing surgical procedures. Students develop an in-depth understanding of topics such as physiologic changes during pregnancy, management of diabetes, maternal and fetal monitoring as well as topics related to managing elderly patients and perioperative management. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

Course Descriptions

MADC5240 MICROVASCULAR & OTHER COMPLICATIONS

Prerequisites: MADC5120, MADC5130, MADC5140

This course covers a range of evidence-based topics addressing prevention, screening, and management of short- and long-term complications of diabetes. Students develop an in-depth understanding of topics such as hypoglycemia, hyperglycemic hyperosmolar syndrome, diabetic ketoacidosis, neuropathy, nephropathy, retinopathy, dental problems, and skin complications. Various learning strategies are utilized in the delivery of the sessions including lectures, group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5250 CARDIOMETABOLIC DISORDERS

Prerequisites: MADC5120, MADC5130, MADC5140

People living with diabetes are at an increased risk of experiencing cardiometabolic disorders. Diabetes care and education specialists play a vital role in the prevention and management of these conditions. In this course, students develop an in-depth understanding of topics such as cardio-vascular protection, dyslipidemia and diabetes, hypertension and diabetes, acute coronary syndromes and diabetes, heart failure and diabetes, and cardiometabolic disorders education and prevention. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5310 DIABETES EDUCATOR PRACTICUM

Prerequisites: Successful completion of all semester 1 and 2 courses

This practicum is designed to prepare students to be effective diabetes educators. Students are able to apply the principles of diabetes education in a workplace environment. Students are placed with a health-related agency in either the public or private sector. Trained preceptors monitor the performance of the clinical students and evaluate the required competencies. As part of their duties, students are required to participate in, plan, and evaluate culturally specific diabetes education activities. Students have the opportunity to record, document, and reflect on learning experiences through the completion of a log book or professional journal.

MADC6110 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT I

This course aims to introduce research as a core component of healthcare professionals' roles in providing advanced evidence-based care. Students develop an in-depth understanding of topics such as quantitative and qualitative research methods as well as mixed methods research designs. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to support the development and planning of their thesis or professional project.

MADC6220 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT II - THESIS OR PROFESSIONAL PROJECT

Prerequisites: MADC6110

In this course, students have the choice to complete a professional project or thesis. This provides an opportunity for students to demonstrate the integration of the theoretical knowledge gained, guided by and in support of the needs of the relevant healthcare organization. Through supervised and structured mentoring sessions, students complete a professional project or thesis on a range of evidence-based topics.

MADC6330 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT III - THESIS OR PROFESSIONAL PROJECT

Prerequisites: MADC6110, MADC6220

In this course, students continue to refine their professional project or thesis that was initiated in their prior research courses. Through supervised and structured mentoring sessions, students modify their research drafts under the direct supervision of their assigned mentor/supervisor.

MATH1010 ALGEBRA & TRIGONOMETRY

Prerequisites: MA1029 OR AMPI Score of 60%

A strong foundation in algebra and trigonometry is essential for the success of students in their higher-level math and science courses as well as in everyday life. This course is intended for students of all disciplines to help strengthen their fundamental mathematical skills. Topics include conceptual and applied mathematics involving linear equations and inequalities, polynomials, rational expressions and equations, radicals, and quadratics. In addition, students will investigate fundamental trigonometric topics pertaining to angles, the unit circle, right triangles, and applications of trigonometric functions. Through a variety of student-centered investigations, real-life applications, and adaptive learning practice, students learn to effectively use quantitative and mathematical symbolic reasoning and analysis in their personal and professional lives.

MATH1020 PRE-CALCULUS

Prerequisites: MATH1010 OR AMPII Score of 75%

This course focuses on developing essential technical mathematical skills in functions and analytical trigonometry to ensure success in subsequent math courses. Students learn to identify and describe the effects of transformation on both algebraic and graphical forms of polynomial, rational, exponential, and logarithmic functions. In addition, they analyze the behaviors of functions and use the properties of functions to solve equations and application problems. Students gain a solid foundation in the study of trigonometric functions and their applications in real-world contexts, in addition to analytical trigonometric concepts applied to polar coordinate systems. Through a variety of student-centered investigations, real-life applications, and adaptive learning technologies, students learn to effectively practice mathematical reasoning and symbolic analysis in their pursuit of lifelong learning.

MATH1030 CALCULUS I

Prerequisites: MATH1020 OR AMPII Score of 85%

Calculus is a branch of mathematics that studies how to quantitatively assess change over time, especially as it applies to technical programs. This course introduces students to the rules of differentiation and the methods of differentiating various algebraic and transcendental functions. Through mathematical problem-solving, students learn how to solve real-life problems using differentiation, followed by an introduction to integration. Through a variety of student-centered investigations, real-life applications, and adaptive learning technologies, students learn to effectively practice mathematical reasoning and symbolic analysis of calculus concepts in their pursuit of lifelong learning.

MATH1040 STATISTICS

Statistical knowledge is important in the business and scientific fields as it provides an understanding of how data is collected and analyzed. This is an introductory statistics course intended for students in a variety of study areas and research. Students apply fundamental concepts in statistics to interpret results of a variety of statistical techniques from descriptive and inferential statistics, and to critically review and analyze statistical information. Through a variety of student-centered investigations, real-life applications, and adaptive-learning technologies, students learn to effectively use elementary statistical software and techniques to critically assess statistical work in real world applications.

Course Descriptions

MATH1050 LINEAR ALGEBRA
Linear algebra is the branch of mathematics with many applications including mathematical physics and coding theory. This course introduces the fundamental concepts of linear algebra and their applications. Topics include systems of equations, matrices, determinants, vector spaces, inner product spaces, eigenvalues and eigenvectors. Through a variety of student-centered investigations and real-life applications, students learn to effectively practice mathematical reasoning and symbolic analysis of linear algebra concepts in their pursuit of lifelong learning.

MATH1060 NUMERICAL PROBLEM SOLVING
The modern business environment requires its professionals to demonstrate the ability to analyze and summarize data, and use statistical analysis for decision-making in real-world business scenarios. This course provides students studying management, marketing, finance, accounting, economics, and other fields of business administration with an introductory survey of descriptive and inferential statistics that support such analytical decision-making skills. In addition to describing data with graphical, tabular, and quantitative summaries, students will also use probability models and hypothesis testing to analyze situations in business environments with uncertainty. Through a variety of student-centered investigations, real-life applications, and adaptive-learning technologies, students learn to effectively practice mathematical reasoning and symbolic analysis of statistics concepts in their pursuit of lifelong learning.

MATH1070 APPLIED MATHEMATICS
A strong foundation in mathematics is essential for solving many problems in the business industry. This course provides an overview of conceptual and applied mathematics, including solving algebraic equations; simplifying algebraic expressions, including polynomial, radical, exponential and logarithmic expressions; followed by solving business-related topics such as simple and compound interest, percentage mark-up and markdown, breakeven analysis and how to analyze a variety of graphs. Through a variety of student-centered investigations, real-life applications, and adaptive learning technologies, students learn to effectively practice applied mathematical reasoning and symbolic analysis in their pursuit of lifelong learning.

MATH2002 QUANTITATIVE DESIGNS & STATISTICS
Students are introduced to quantitative health research processes and statistical analyses. Students learn the preparation of statistical data, statistical analysis and interpretation within the context of the positivist research paradigm for health research. Strategies for critically reviewing, integrating, and disseminating statistical findings from health research are discussed and how this data informs knowledge for practice. Learning is applied in a one-hour weekly supervised tutorial.

MATH2010 CALCULUS II
Prerequisites: MATH1030
Integral Calculus is essential in the understanding of real-world problems related to physics and engineering. This comprehensive course builds upon prior mathematical theories and applied differential skills, introducing students to advanced applications and techniques of integration, polar coordinates, sequences and series, and power series. Through lectures and problem-solving activities, students learn to connect applications of integration to technical problems in their programs and professions. Through a variety of student-centered investigations and real-life applications, students learn to effectively practice mathematical reasoning and symbolic analysis about integration in their pursuit of lifelong learning.

MATH2020 NUMERICAL METHODS
Prerequisites: MATH2010
Numerical Methods is a fundamental course designed to equip students with the necessary skills to explore the principles, algorithms, and applications of using computational approaches to approximate solutions of mathematics problems in the applied sciences. Major topics include the approximation of solution(s) to linear and nonlinear equations, error and their propagation, polynomial interpolation, numerical differentiation and integration, curve fitting, and solutions of initial value and boundary value problems. Students will evaluate the accuracy and reliability of numerical algorithms, as well as to proficiently interpret and communicate the outcomes of numerical simulations. Throughout the curriculum, students will implement algorithms using numeric computing tools and environments, and employ these approaches to address real-world problems in computer science.

MGMT2010 ORGANIZATIONAL BEHAVIOR
Prerequisites: Min 30 Credits
This course focuses on the study and application of organizational behavior principles, theories and models. Students analyze the interrelated levels of individual, group and organization. Students interpret how employees within organizations achieve both personal and organizational goals. Topics such as the fundamentals of management, motivation, leadership,
group dynamics, and organizational communication are explored.

MGMT3035 BUSINESS ETHICS
Prerequisites: Min 30 Credits
This course examines ethical theory and how it can be applied constructively in the practice of business management. Students explore the foundations of business ethics, ethical challenges, ethical decision-making in organizations and organizational approaches to managing ethical decision-making including implementing and evaluating ethics program effectiveness. A variety of cases and a team project are used in the delivery of the course material.

MGMT4000 STRATEGIC & SUSTAINABLE MANAGEMENT
Prerequisites: MGMT2010, Min 60 Credits
This course focuses on the value and process of strategic management used by entrepreneurs and management to gain or sustain competitive advantage for their organizations. The course provides a general overview of the planning processes for business strategies. Students explore organizational vision and mission, principles, techniques and models for organizational and environmental analysis, the theory and practice around strategy formulation and implementation, evaluation and continuous improvement. Students integrate and apply their prior learning to various business situations in case analysis.

MGMT4010 LEADERSHIP & CHANGE MANAGEMENT
Prerequisites: MGMT2010
Prerequisites: MGMT2010
This course examines the role of change in the management of organizations. It explores the nature and processes of organizational change. It focuses on contemporary techniques and procedures used to understand, initiate, plan, and implement change. Students are exposed to application-based learning, allowing an opportunity to apply theory and practice through practical case studies and an application-based project.

Course Descriptions

MISY2010 MANAGEMENT INFORMATION SYSTEMS
This course introduces students to the principles of management information systems, the different types, and the roles they play in today's business environments. It also discusses the factors that can influence the selection of information systems. In this course, students study the life-cycle of developing information systems and compare the different methodologies used to develop different systems. The main components of today's information systems, including databases, the Internet, and communication and networking software, are presented. Students also analyze the relationship between the ethical, economical, and social issues of modern Information systems. Finally, the security of the Information systems and the roles and responsibilities of the IT department in organizations are explored.

MRKT1001 PRINCIPLES OF MARKETING
This course introduces the principles and practices of marketing within a business context. Students explore the meaning and role of marketing and current trends within marketing. They develop an understanding of marketing processes including planning, marketing research, consumer markets and behavior, business markets and behavior, and market segmentation and target markets. Students have the opportunity to apply this knowledge to case study situations, and to research various marketing concepts, techniques, and processes as they develop an applied skills project.

MRKT2002 MARKETING RESEARCH
Prerequisites: RSST3001
This course introduces students to the field of business research through the examination of the various techniques, principles, skills, and activities required to create and present an effective business project. The course familiarizes students with the ways that research information can be obtained and/or produced. Students learn how information is used to provide insight into markets, customers, products, and business strategies for business decision making purposes. Students are also given the opportunity to apply various research techniques and practices using case studies and application assignments culminating in the preparation of a research report.

MRKT2003 FUNDAMENTALS OF DIGITAL MARKETING
Prerequisites: MRKT1001
Employing a digital marketing strategy is critical for every enterprise in today's business environment. This course presents students with an overview of the digital marketing landscape, and students apply the strategies learned here to a business. The course provides the student with a thorough understanding of the various digital tools used in developing a comprehensive digital marketing strategy for an organization. Students use real-life examples and case studies as they examine digital marketing strategies that are key to effectively communicating with today's online consumer.

MRKT3006 SERVICES MARKETING
Prerequisites: MRKT1001
As the service industry expands globally, knowledge of service marketing has become essential for any marketing specialist. This course is designed to enable students to apply the concepts and strategies of marketing relevant to the service sector. Students explore in some depth various aspects of services marketing, including service productivity, service marketing distribution, service pricing concepts, positioning in service marketing, and service personnel management. Students are provided with the opportunity to apply their knowledge of these marketing concepts and strategies utilizing a project, application assignments, and presentations.

MRKT3007 PROFESSIONAL SELLING
Prerequisites: MRKT1001
This course introduces the fundamental principles and practices of professional selling, with a focus on personal selling. Personal selling refers to the personal communication of information to unselfishly persuade a prospective customer to buy a product that satisfies the customer's individual or organizational needs. Students gain competencies in prospecting, identifying client needs, and dealing with objections while building client relationships. The student takes part in selling exercises to review and master their selling techniques. Students are given the opportunity to apply various techniques and practices through case analysis and a simulated sales meeting.

MRKT3008 DIGITAL MARKETING COMMUNICATIONS
Prerequisites: MRKT2003
This course discusses the importance of Integrated Marketing Communication (IMC) to combine digital and traditional marketing communication elements to optimize marketing investments and leverage results toward the target market and other stakeholders. Students learn how to develop a creative brief, design a marketing communication plan, and recommend metrics to evaluate its effectiveness. The course uses a variety of examples of campaigns and business cases to apply theory to real situations.

MRKT3009 MARKETING ANALYTICS & DATA MINING
Prerequisites: MRKT2003
Marketing Analytics and Data Mining provides students with the necessary tools and techniques to explore, understand and analyze digital data, and how to acquire and apply advanced analytical skills to solve marketing decision problems. Students learn and comprehend the processes and theories of data analysis and market research. This advanced course encourages graduates to become innovative, strategic leaders and digital marketeers in a globalized digital economy.

MRKT3010 DIGITAL OPTIMIZATION
Prerequisites: MRKT2003
This course examines the tools and techniques digital technology uses to improve marketing operating processes and strategy. As companies embrace digital marketing optimization techniques, their brands attain more focused data about their target markets' behaviors and can therefore develop IMC campaigns that speak directly to the wants and needs of their customers. Students learn the advantages of digital strategies to help companies rank higher on search engine results pages (SERPs), thereby receiving more attention from the customers. By learning the optimal use of various digital marketing channels, students gain a deeper understanding of how to create higher conversion using digital optimization tools and techniques.

MRKT3011 BRANDING IN THE DIGITAL AGE
Prerequisites: MRKT2003
This course enables students to understand the strategic role of branding in the context of marketing and corporate strategy. Participants are able to indicate a brand positioning and identify the different brand strategies and criteria to select a brand strategy. The course uses cases to illustrate how digital brands provide compelling experiences to customers and the ways brands use digital tools to increase customer engagement. Students apply concepts with assignments, research, and presentations.

Course Descriptions

MRKT3104 CONSUMER BEHAVIOR IN THE DIGITAL AGE
Prerequisites: MRKT1001
Through the implementation of digital tactical strategies, students in this course expand their knowledge of the influence that marketing technologies have on consumer behavior. This includes AI, marketing automation, machine learning and digital marketing tools, enabling them to execute relevant consumer centric strategies focused on channel development, data collection and marketing for targeted audiences. Students learn how to execute various tactics using digital platforms for marketing campaigns focused on price, product, promotion and channel development. The implementation and assessment of tactical impact is conducted in relationship to consumer behavior decision-making and the metrics derived from the tactics being used. The course uses data obtained from labs that focus on primary research using interviews, focus groups, surveys and observation and the evaluation measures used for the tactic's metrics.

MRKT3105 MARKETING CONTENT & MEDIA MANAGEMENT
Prerequisites: MRKT1001
This course enables students to develop their applied skills in writing and producing marketing content, while assessing online platforms for media placement of their work. Students develop content for various digital and traditional platforms using applications commonly used within industry, as well as emerging applications that are being driven by trends within specific industry sectors. Marketing content is developed using traditional graphic and text-based applications, along with voice and visual search applications for online platforms. Students also engage in managing traditional and online campaigns that include a variety of mixed media.

MRKT3105A MARKETING CONTENT & MEDIA MANAGEMENT
(تسويق المحتوى وإدارة وسائل الإعلام)
Prerequisites: MRKT1001
This course enables students to develop their applied skills in writing and producing marketing content, while assessing online platforms for media placement of their work. Students develop content for various digital and traditional platforms using applications commonly used within industry, as well as emerging applications that are being driven by trends within specific industry sectors. Marketing content is developed using traditional graphic and text-based applications, along with voice and visual search applications for online platforms. Students also engage in managing traditional and online campaigns that include a variety of mixed media.

MRKT4112 ADVANCED TOPICS IN DIGITAL MARKETING
Prerequisites: MRKT2002, MRKT2003
The aim of the course is to examine issues, topics, and trends in digital marketing that are of recent and current concern to today's marketing professionals. This is a student-led seminar-based course, where students research, develop, and present selected issues/ topics/ trends from a current, major topics list. In addition, students are provided the opportunity to research and critique current journal articles.

MRKT4213 SALES MANAGEMENT
Prerequisites: MRKT3007, MRKT2003
This advanced course provides students with the opportunity to explore the practical components of professional sales management. Students deepen their knowledge in the areas of sales management, planning, forecasting, and account relationships, as well as sales force organization, operations, staffing, and training. Through field engagement in a sales management simulation, work assignment, research, and presentations, students are provided the opportunity to demonstrate the application of sales management concepts.

MRKT4214 DIGITAL MARKETING STRATEGY
Prerequisites: MRKT2003
Employing a digital marketing strategy is critical for every enterprise in today's business environment and students apply that strategy to a business. This course presents students with an overview of the digital marketing landscape and provides students with a thorough understanding of various digital tools used in developing a comprehensive digital marketing strategy for an organization. Students use real-world examples and case studies as they examine digital marketing strategies that are key to effectively communicating with today's online consumer.

MSAF6100 EMPIRICAL RESEARCH METHODS
Qualitative and quantitative research methodologies adopted in financial and management accounting research enable students to make informed, data-driven decisions. This course introduces standard techniques that can equip students with practical research skills and knowledge that can be applied to the real-life examples and ethical issues in a research dissertation.

MSAF6101 FINANCIAL STATEMENT PREPARATION & ANALYSIS
Financial analysis requires the ability to explain the purpose and content of financial statements and to develop an understanding of accounting principles and the International Financial Report Standards (IFRS) conceptual framework. This course focuses on the preparation and interpretation of financial statements for the purpose of evaluating the financial performance of companies. Through applied cases and examples, the course exposes students to a variety of tools and techniques used in the valuation of companies, managing working capital, and determining the various funding strategies to cover working capital needs.

MSAF6105 FINANCIAL MANAGEMENT
This course provides a foundation for understanding key financial issues and capturing the essence of managerial decision-making using various financial techniques that are vital to financial management. This course provides an overview of financial management, financial markets, the time value of money, structure of interest rates, valuation of bonds and stocks, and risk-return trade-off. The course is delivered through lectures, videos, class discussions, and guided use of financial calculators.

MSAF6201 INTERNATIONAL FINANCIAL REPORTING
Prerequisites: MSAF6101
Knowledge and skills in understanding and applying accounting standards and the conceptual framework underpin financial statement preparation. This course offers an opportunity to learn how to record individual transactions in line with International Financial Reporting Standards and prepare financial statements for both single entities and groups. Students have an opportunity to gain knowledge in a variety of current and complex issues in financial reporting regarding leases; income taxes, financial instruments, provisions, and revenue recognition. Case studies and real-world examples are used throughout the delivery of the course.

MSAF6205 ADVANCED CORPORATE FINANCE
Prerequisites: MSAF6101, MSAF6105
Within the contemporary evolution of corporate finance, managers must learn to make intelligent financial decisions. This course discusses topics related to capital budgeting, financing, and working capital management decisions. By examining and participating in activities related to dividend policy, financial planning, firm valuation, ESG-Related topics, and the optimization of capital structures, students have an opportunity to develop financial managing skills.

Course Descriptions

MSAF6211 ADVANCED MANAGEMENT ACCOUNTING
Management accounting must inform decision-making, planning, control and performance management. This course considers recent developments in cost management, the integration of cost accounting with modern manufacturing techniques, the links between management accounting and strategic management, and the use and interpretation of management accounting information for decision making. The course introduces complex management accounting techniques in the areas of value chain, total quality management, applying probabilities in the analysis of cost variances, evaluating segmental performance and transfer pricing, in addition to traditional management accounting techniques.

MSAF6301 CONTEMPORARY ISSUES IN ACCOUNTING & FINANCIAL ECONOMICS
Prerequisites: MSAF6101, MSAF6105
Students must be aware of current developments in accounting and financial markets, as well as within the broader economy. This course enables students to gain perspective on some of the most important issues facing companies today and develop an advanced theoretical and practical understanding of the changing environment in which companies operate. Through a variety of learning methods, students examine financial innovation developments and their impact on accounting standards and regulation.

MSAF6305 INVESTMENTS & PORTFOLIO MANAGEMENT
Prerequisites: MSAF6205
An advanced understanding of the principles of investment analysis is important when working in portfolio and wealth management. This course aims to examine up-to-date practices in the finance industry through theory and research and supplement students with recent developments in this area's analytics methods.

MSAF6315 ADVANCED ASSET PRICING
Prerequisites: MSAF6205
The study and interpretation of business models and the drivers that add value to shareholders' wealth are key areas of knowledge for fund managers. This course includes in-depth valuation and risk assessment of fixed income and equity instruments and covers topics of income valuation and risk, credit analysis models, and the arbitrage-free valuation framework. Students have an opportunity to learn about advanced equity valuation methodologies, industry and company analysis, and private company valuation and could be well-equipped to contribute in a financial institution upon graduation.

MSAF6325 DERIVATIVES & ALTERNATIVE INVESTMENTS
Prerequisites: MSAF6205
Various financial derivatives and alternative investments contribute greatly to risk management. Derivatives such as forwards, futures, swaps, and options allow a risk manager to mitigate or even eliminate the unwanted risks an investor faces. The main objectives of this course are to help students gain intuition and equip them with skills necessary for pricing derivative instruments and hedging risky positions, covering topics such as interest rate, credit, and currency derivatives. The course provides students with supplementary knowledge about alternative investments, equipping them with the skills and strategies to assess potential investment opportunities in private equity, private debt, hedge funds, and real estate.

MSAF6400 ACCOUNTING & FINANCE THESIS
Prerequisites: MSAF6100
The ability to apply knowledge and skills gained throughout a student's academic career sits at the center of an applied university degree. Demonstrated understanding of the wider context of the MSc Accounting and Finance program is a key objective of this course. In the dissertation, students have an opportunity to present a clear, logical, and coherent line of argument, state clear objectives, and address these objectives. The dissertation requires that students draw on concepts, theories, and frameworks studied in the program. Students are expected to use appropriate qualitative or quantitative methods of analysis to answer the research questions, test the research hypothesis, and draw their final conclusions.

NUMW1010 INTRODUCTION TO THE MIDWIFERY PROFESSION
Students are introduced to the midwifery profession and relational practice within woman and person and family-centered frameworks. Professional identity, legal, and ethical aspects of midwifery, as well as regulatory standards and principles guiding midwifery practice are explored. Midwives' theoretical knowing, ways of thinking and reasoning, evidence-informed practice, and the collaborative nature of midwifery within an inter-professional team are a focus. Students initiate learning plans and professional portfolios, which they continue to develop throughout the midwifery program.

NUMW1210 REPRODUCTIVE ANATOMY & PHYSIOLOGY
Prerequisites: BIOL1030, BIOL1031
Students build an understanding of the organization of the human body from chemicals to cells to tissues, and explore the anatomy and physiology of major human body systems. The relationship between form (anatomy) and function (physiology) is emphasized. A focus is on maternal physiology of conception, pregnancy, labor, birth, and postpartum and fetal physiology of fetal growth and transition to extra-uterine life.

NUMW1220 MIDWIFERY THERAPEUTICS I
Prerequisites: BIOL1030, BIOL1031, NUMW1010
Students are introduced to core clinical skills required in the provision of midwifery practice. A focus of this course is on homeostatic adaptive responses for biophysical and psychosocial health concepts and midwifery therapeutic approaches that balance, support, and maintain health of mothers and babies. Learning is applied in a mandatory three-hour weekly supervised lab.

NUMW1230 MATERNAL NUTRITION & INFANT FEEDING
Prerequisites: BIOL1030 & BIOL1031 OR Entry into Midwifery Post-Diploma Program
Students will gain a comprehensive understanding of the importance of maternal nutrition and infant feeding for the health and wellbeing of mother and child within a women and person- and family-centered framework. The course explores the physiological and nutrition needs of pregnant and lactating women, as well as the developmental needs of infants in terms of nutrition and feeding.

NUMW1310 WOMEN & NEWBORN HEALTH ASSESSMENT
Prerequisites: NUMW1210 & NUMW1220 OR Entry into Midwifery Post-Diploma Program
Students are introduced to the theoretical foundations and practice of health assessment for well and stable pregnant mothers and newborns. Students gain basic competence in identifying anatomical landmarks and using tools and technology to assess normal physiological function and adaptive responses. Learning is applied in a mandatory three-hour weekly supervised lab.

NUMW1320 INTRODUCTION TO MIDWIFERY PRACTICE
Prerequisites: NUMW1210, NUMW1220, NUMW1230
During this integrative practice experience, students are introduced to the practice of woman and person and family centered care in clinical settings, with emphasis on the health and well-being of the woman and her baby during the prenatal and the postnatal period. In the clinical setting, students apply concepts related to caring, communication and information technology, critical and clinical thinking, and foundational therapeutic midwifery skills and the role of the midwife in the interprofessional team to maintain and support the health and well-being of pregnant women and the baby.

NUMW2020 PD WOMEN & NEWBORN HEALTH ASSESSMENT
Students learn the theoretical foundations and practice of health assessment for low-risk pregnant mothers and newborns. Students gain intermediate competence in identifying anatomical landmarks and using tools and technology to assess normal physiological function and adaptive responses of mothers and newborns during the antenatal and postnatal periods. Learning is applied in mandatory three-hour weekly supervised labs and simulations.

NUMW2030 MIDWIFERY THERAPEUTICS II
Prerequisites: NUMW1220 OR Entry into Midwifery Post-Diploma Program
Students build on learning from Midwifery Therapeutics 1 and the study of homeostatic adaptive responses. Emphasis is on biophysical health and midwifery therapeutic approaches that balance, support, and maintain health of mothers and babies. Learning is applied in a mandatory three-hour weekly supervised lab.

NUMW2040 PERSPECTIVES OF FAMILY HEALTH
Prerequisites: NUMW1310, NUMW1320
Students learn foundational assessment and midwifery therapeutics for families in the context of primary health care. Students explore theories, concepts, and woman family-centered care that support childbearing families through periods of transition and that maintain and promote family wellness. Attention is given to reproductive health and to the promotion of health, prevention of illness, and common issues and health challenges that childbearing families encounter.

NUMW2041 PERSPECTIVES OF WOMEN'S HEALTH
Prerequisites: NUMW1310, NUMW1320
Students learn midwifery concepts, theories and evidence-based woman and person and family centered care for maternal health. Emphasis is on uncomplicated maternal care from pre-conception to birth and postnatal care. Students learn the basics of common maternal complications and when to seek assistance for unstable or unpredictable situations.

NUMW2042 PERSPECTIVES OF NEWBORN HEALTH
Prerequisites:NUMW1310, NUMW1320
Students learn midwifery concepts, theories and evidence-based family centered care for newborn health. Emphasis is on uncomplicated newborn care. Students learn the basics of common newborn complications and when to seek assistance for unstable or unpredictable situations.

NUMW2210 PERSPECTIVES OF COMPLEX MATERNAL HEALTH
Prerequisites: NUMW2041
Students apply midwifery concepts, theories and evidence in the provision of woman and person- and family-centered care for maternity persons experiencing select complex acute, chronic, and emergency mental and physical health challenges that pre-exist or present the first-time during pregnancy and birth. Students learn how to escalate care and to provide interim provisional emergency care while awaiting the arrival of health professional(s).

NUMW2211 PERSPECTIVES OF COMPLEX NEWBORN HEALTH
Prerequisites: NUMW2042
Students apply midwifery concepts, theories and evidence in the provision of woman and person- and family-centered care for newborns experiencing select complex acute, chronic, and emergency physical health challenges. Emphasis is placed on prevention, anticipation, and recognition of alterations from the norm. Students learn how to escalate care and to provide interim provisional emergency care while awaiting the arrival of health professional(s).

NUMW2220 MIDWIFERY CARE FOR COMPLEX MATERNAL HEALTH
Prerequisites: NUMW2030, NUMW2041
Students study human pathophysiology related to alterations in select maternal biophysical and psychosocial health challenges that pre-exist or present for the first-time during pregnancy. Students continue to gain competence in the assessment of multiple body systems, application of midwifery therapeutics, and the safe calculation and administration of medication.

NUMW2221 MIDWIFERY CARE FOR COMPLEX NEWBORN HEALTH
Prerequisites: NUMW2030, NUMW2042
Students study human pathophysiology related to alterations in select newborn biophysical and psychosocial health. Students continue to gain competence in the assessment of multiple body systems, application of midwifery therapeutics, and the safe calculation and administration of medication.

NUMW2240 MIDWIFERY PRACTICE I
Prerequisites: NUMW2040, NUMW2041, NUMW2042
During this integrative practice experience, students care for maternal and newborn persons within a woman and person and family centered framework, with emphasis on the health and well-being of the woman and baby during pregnancy and uncomplicated labor and delivery. Students consolidate competences learned to provide safe midwifery care within the interdisciplinary team in various settings. Clinical simulation will facilitate increased proficiency in midwifery practice.

NUMW2340 MIDWIFERY PRACTICE II
Prerequisites: NUMW2240
During this integrative practice experience, students build on practice experience and the care for maternal and newborn persons within a woman and person-family centered framework, with emphasis on midwifery care during uncomplicated labor and delivery and for the newborn immediately following birth. Students consolidate competences learned to provide safe midwifery care and recognition of alterations in health in the mother or baby during labor delivery and following birth. Clinical simulation facilitates increased proficiency in midwifery practice.

Course Descriptions

NUMW3010 ORGANIZATION OF MIDWIFERY PRACTICE
Prerequisites: NUMW2340
Students critically examine local and global contemporary issues that affect the organization and delivery midwifery practice. The role of the midwife in providing midwifery care is explored from a wider social perspective, including the political, economic, sociocultural, technological, legal and regulatory, and environmental landscape affecting the midwifery profession. As students prepare to transition to an entry-level registered midwife, a focus is on professional career development that includes values clarification, professional image, midwifery leadership, midwifery licensure and regulation, and continuing professional development. Students critique theories that guide midwifery practice, education, and healthcare delivery models.

NUMW3020 ADAPTIVE LEADERSHIP & CLINICAL MANAGEMENT
Prerequisites: NUMW2340 OR NUMW3110
Students are introduced to adaptive leadership© and its application for clinical leadership and management in nursing and midwifery. There is a focus on the principles, tools, and techniques of adaptive leadership© to mobilize, motivate, organize, and focus intra- and interprofessional healthcare teams to address the complexities and change for enhanced health care and health care delivery. Students apply learning by completing a 36-hour quality improvement assignment.

NUMW3040 MIDWIFERY PRACTICE III
Prerequisites: NUMW2340
During this integrative practice experience, students build competence in the care of maternal and newborn persons within a woman and person-family centered framework, with emphasis on midwifery care during uncomplicated labor and delivery and for the care of the newborn. Students consolidate competences learned to provide safe midwifery care for with an emphasis on the recognition and first-line emergency management of alterations in health issues during labor and delivery and following birth. Clinical simulation facilitates increased proficiency in midwifery practice.

NUMW3110 CONTEXT OF MIDWIFERY PRACTICE
Students are introduced to the context of midwifery practice. Students learn midwifery philosophy, theories, models of care, and practice with woman and person-centered frameworks. Professional identity, legal, and ethical aspects of midwifery, and regulatory standards and principles guiding midwifery practice are explored. Midwives' theoretical knowing, ways of thinking and reasoning, evidence-informed practice, and the collaborative nature of midwifery within an interprofessional disciplinary team are a focus. Students examine various theories and evidence to compare diverse perspectives about what creates and compromises women and newborn health. Students initiate learning plans and professional portfolios, which they will continue to develop throughout the midwifery program.

NUMW3120 PD REPRODUCTIVE ANATOMY & PHYSIOLOGY
Students explore female and male anatomy and physiology related to sexual development and reproduction. The relationship between form (anatomy) and function (physiology) is emphasized. A focus also includes maternal physiology of conception, pregnancy, labor, birth, and postnatal and fetal physiology of fetal growth and transition to extra-uterine life. This course is suited for students who do not have experience in maternal care.

NUMW3130 PD COMMUNICATION FOR MIDWIVES
Students learn basic concepts of communication skills in a variety of contexts for effective women- and person-centered care. Emphasis is on communication theories and techniques used for therapeutic, interprofessional, and public communications. Students learn essential communication for establishing therapeutic relationships with women and families, for collaborating with other members of the healthcare team, and for preparing and providing health education to individuals and groups.

NUMW3150 PD INTRODUCTION TO MIDWIFERY PRACTICE
During this integrative practice experience, students are introduced to woman- and person-centered midwifery practice in clinical settings. Students contribute to the delivery of midwifery therapeutics for low-risk women and their newborns during the antenatal and the postnatal periods, with emphasis on promoting and sustaining health and well-being.

NUMW3210 CRITICAL ANALYSES OF GLOBAL HEALTH TRENDS FOR MIDWIVES
Prerequisites: NUMW3010 & NUMW3020 OR NUMW3110
Students apply concepts, theories and evidence related to maternal and newborn population and global health issues from a human rights and equity framework. A focus is on inter-professional, inter-disciplinary and inter-sectoral collaboration to prevent and address maternal global and population health challenges and inequities. Students critically examine the role of health care professionals in addressing maternal population and global health challenges including lags in meeting sustainable development goals.

NUMW3220 PD COMPLEX MATERNAL CARE
Prerequisites: NUMW3110, NUMW2020, NUMW3150
Students learn the theoretical basis of complex health challenges and core midwifery therapeutics that underpin women experiencing complex health challenges that pre-exist or present the first-time during the antenatal, intranatal, and postnatal periods. Emphasis is on understanding midwives' scope of practice for preventing, anticipating, and recognizing deviations from the normal. Students learn to recognize and provide provisional care for unexpected and emergency situations through simulated situations.

NUMW3230 PD COMPLEX NEONATAL CARE
Prerequisites: NUMW3110, NUMW2020, NUMW3150
Students learn the theoretical basis of complex health challenges and core midwifery therapeutics that underpin fetal and newborn health challenges. Emphasis is on understanding midwives' scope of practice for preventing, anticipating, and recognizing deviations from the normal. Students learn to recognize and provide provisional care for unexpected and emergency situations through simulated situations.

NUMW3240 MIDWIFERY PRACTICE IV
Prerequisites: NUMW3040
During this integrative practice experience, students build competence in the care of maternal and newborn persons within a woman and person-family centered framework, with emphasis on uncomplicated midwifery care across the childbearing continuum. Students consolidate competences learned to provide safe midwifery care for with an emphasis on the recognition and first-line emergency management of alterations in health issues during pregnancy, childbirth, and postpartum. Clinical simulation facilitates increased proficiency in midwifery practice.

NUMW3250 MIDWIFERY PRACTICE I
Prerequisites: NUMW1230, NUMW2020, NUMW3130 OR NUMW3150
During this integrative clinical practice experience, students contribute to midwifery care for women and their newborns during the antenatal, intranatal, and postnatal periods. Students consolidate competencies to provide evidence-based midwifery care including assessments, plans of care, and midwifery therapeutics. Students gain competence to recognize common deviations from normal, to participate in care for unanticipated complications, and to appropriately escalate care.
Clinical simulation facilitates increased proficiency in midwifery therapeutics.

NUMW3340 EXPLORATORY PRACTICE FOR MIDWIVES
Prerequisites: NUMW3240
Students complete a placement in a midwifery practice area of their choice. The practice immersion experience allows students to integrate and refine entry-level competence in a clinical, policy, or research area of their interest. The course can be used for those taking an advanced practice pathway, conducting a research project, engaging in a technological innovation, or an international exchange experience.

NUMW3350 PD MIDWIFERY PRACTICE II
Prerequisites: NUMW2030, NUMW3220, NUMW3230, NUMW3250
During this integrative practice experience, students build competence in the care of maternal and newborn persons within a woman and person-family centered framework, with emphasis on uncomplicated midwifery care across the childbearing continuum. Students consolidate competences learned to provide safe midwifery care with an emphasis on the recognition and first-line emergency management of alterations in health issues during pregnancy, childbirth, and postpartum. Clinical simulation facilitates increased proficiency in midwifery practice.

NUMW4040 MIDWIFERY PRACTICE V
Prerequisites: NUMW3340
During this integrative practice experience, students build competence and their autonomous practice in the uncomplicated and complicated care of maternal and newborn persons within a woman and person-family centered framework across the childbearing continuum. Students consolidate competences learned to provide safe midwifery care for mothers and newborns with recognition and first-line emergency management of alterations in health issues during pregnancy, childbirth, and postpartum. Clinical simulation facilitates increased proficiency in midwifery practice.

NUMW4150 PD MIDWIFERY PRACTICE III
Prerequisites: NUMW3350
During this integrative clinical practice experience, students perform midwifery care for women and their newborns during the antenatal, intranatal, and postnatal periods with increasing autonomy and competence. Students consolidate competencies to provide evidence-based midwifery care including assessments, plans of care, and midwifery therapeutics. Students perform with increasing autonomy and competence to recognize common deviations from normal, to act for unanticipated complications, and to appropriately escalate care. Clinical simulation facilitates increased proficiency in midwifery therapeutics.

NUMW4240 CONSOLIDATION OF MIDWIFERY PRACTICE
Prerequisites: NUMW4040
Students complete a final preceptored clinical placement in a maternity related practice setting. Students consolidate midwifery knowledge and entry-to-practice competencies in preparation for transition from a student to a professional midwife. Students assume responsibility for learning through increasingly complex assignments as they near the end of their program. Students complete their professional portfolios and must pass a final consolidated exam.

NUMW4250 PD CONSOLIDATED MIDWIFERY PRACTICE
Prerequisites: NUMW4150
Students complete a preceptored clinical placement in a maternity related practice setting. Students consolidate midwifery knowledge and entry-to-practice competencies in preparation for transition from a student to a professional midwife. Students assume responsibility for learning through increasingly complex assignments as they near the end of their program. Students complete their professional portfolios and students must pass a final consolidated exam.

NUMW4350 PD EXPLORATORY PRACTICE FOR MIDWIVES
Prerequisites: NUMW4250
Students complete a placement in a midwifery practice area of their choice. The practice immersion experience allows students to integrate and refine entry-level competence in a clinical, policy, or research area of their interest. The course can be used for those taking an advanced practice pathway, conducting a research project, engaging in a technological innovation, or an international exchange experience.

NUPN1010 INTRODUCTION TO PRACTICAL NURSING
Students are introduced to the practical nursing profession and relational practice within a person- and family-centered framework. Professional identity, legal, and ethical aspects of nursing, as well as regulatory standards and principles guiding practical nursing, are explored. Nurses' theoretical knowing, ways of thinking and reasoning, evidence-informed practice, and the collaborative nature of practical nursing within an inter-professional team are a focus of the course. Students initiate learning plans and professional portfolios which they will continue to develop throughout the practical nursing program.

NUPN2010 TRENDS & LEADERSHIP FOR PRACTICAL NURSING
Prerequisites: Min 34 Credits
Students critically examine local and global contemporary issues that affect the nursing profession and healthcare delivery as they prepare to transition to becoming practical nurse. A focus is on professional career development that includes values clarification, professional image, nursing licensure and regulation, and continuing professional development. Students explore leadership, management, and organizational theories related to practical nursing and health care. An emphasis is on healthy work environments, change management, and role conflict management within the health professional team.

NUPN2020 THEORETICAL PERSPECTIVES OF PRIMARY CARE FOR FAMILIES
Prerequisites: NURS1021, NURS1050 -
Students learn foundational assessment and nursing therapeutics for families in the context of primary health care. Students explore theories, concepts, and family-centered care that support families through periods of transition and that maintain and promote family wellness. Attention is given to the promotion of health, prevention of illness, and management of chronic disease and common issues and health challenges that families encounter across the life course.

Course Descriptions

NUPN2030 THEORETICAL PERSPECTIVES OF MATERNAL & NEWBORN CARE

Prerequisites: NURS1021, NURS1050
Co-requisites: NUPN2050
Students learn nursing concepts, theories, and evidence-based family-centered care for maternal and newborn health. Emphasis is on uncomplicated maternal care from pre-conception to birth and newborn care. Students learn the basics of common maternal-newborn complications and when to seek assistance for unstable or unpredictable situations.

NUPN2040 THEORETICAL PERSPECTIVES OF PEDIATRIC HEALTH

Prerequisites: NURS1021, NURS1050
Co-requisites: NUPN2050
Students learn nursing concepts, theories, and evidence-based family-centered care for pediatric health. Emphasis is on uncomplicated pediatric care. Students learn the basics of common childhood health alterations and when to seek assistance for unstable or unpredictable situations.

NUPN2050 PRACTICAL NURSING PRACTICE FOR FAMILIES

Prerequisites: NURS1021, NURS1050
Co-requisites: NUPN2030, NUPN2040
Students are assigned to various practice settings to care for families within a person and family centered framework. During this integrative practice experience, students provide nursing care for well and stable infants, children, adolescents, and childbearing individuals. Clinical simulation will facilitate increased proficiency in nursing practice.

NUPN2060 PRACTICAL NURSING CONSOLIDATION

Prerequisites: NURS2010, NURS2050
Students complete a final preceptored placement in a clinical practice setting. Students consolidate nursing knowledge and practical nursing entry-to-practice competencies in preparation for transition from a student to a professional practical nurse. Students assume responsibility for learning and increasing patient assignments as they near the end of their education. Students complete their professional portfolios. Students must pass a final consolidated exam.

NURS1010 INTRODUCTION TO PATHOPHYSIOLOGY & PHARMACOTHERAPEUTICS

Prerequisites: BIOL1030, BIOL1031, (NUPN1010 OR NUMW1010 OR NURS1101) & (BIOL1110 OR NUMW1210)
Students explore the relationship between pathophysiological cellular, tissue, and organ alterations and pharmacological mechanisms. Students learn basic pathophysiologic processes in preparation to understand and assess the manifestations of injury and disease. Students gain requisite knowledge about pharmacological concepts and processes in preparation for safe administration of medications. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1020 NURSING THERAPEUTICS I

Prerequisites: BIOL1030, BIOL1031, BIOL1110, (NUPN1010 OR NURS1101)
Students study homeostatic adaptive responses for select biophysical and psychosocial health concepts and nursing therapeutic approaches that balance, support, and maintain health. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1021 NURSING THERAPEUTICS II

Prerequisites: NURS1020
Students build on learning from Nursing Therapeutics I and the study of homeostatic adaptive responses. Emphasis is on biophysical health and nursing therapeutic approaches that balance, support, and maintain health. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1030 INTRODUCTION TO HEALTH ASSESSMENT

Prerequisites: BIOL1030, BIOL1031, BIOL1110, (NUPN1010 OR NURS1101)
Students are introduced to the theoretical foundations and practice of health assessment with a focus on well and stable persons across the life course. Students gain basic competence to identify anatomical landmarks, use tools and technology to assess normal physiological function and adaptive responses. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1040 HEALTH & HEALTH SYSTEMS

Students examine various theories and evidence to compare diverse perspectives about what creates and compromises health. Using a primary and equity lens, student gain experience engaging with individuals, groups, and communities to improve and maintain health. The organization of health systems are explored. A 36-hour health education project is a required component of the course.

NURS1050 PERSON & FAMILY CENTERED PRACTICE

Prerequisites: Min 34 Credits
During this integrative practice experience, students are introduced to the practice of person and family centered nursing care in clinical settings. In the clinical setting, students apply nursing concepts related to caring, communication and information technology, critical and clinical thinking, and foundational therapeutic nursing skills and the role of the nurse in the interprofessional team to maintain and support the health and well-being of stable adults.

NURS1101 INTRODUCTION TO THE NURSING PROFESSION

Students are introduced to professional registered nursing practice within a person- and family-centered framework. Professional identity, leadership, legal, and ethical aspects of nursing, as well as regulatory standards and competencies guiding professional registered nursing are explored. Registered nurses' theoretical knowledge, ways of thinking and reasoning, clinical judgment, evidence-informed practice, and the collaborative nature of professional nursing within an interprofessional team are emphasized. Students initiate learning plans and professional portfolios, which they continue to develop throughout the nursing program.

NURS2010 THEORETICAL PERSPECTIVES OF ACUTE HEALTH

Prerequisites: NUPN2050 OR NURS2401
Co-requisites: NURS2050 OR NURS2491
Students adopt a comprehensive approach, integrating theories and evidence-based practices to address a range of acute and episodic mental and physical health challenges across the life course. Students learn to manage various mental health conditions, including addiction, cognitive, mood, social functioning disorders, psychosis, and psychiatric emergencies. This course prepares students for effective care delivery in a variety of settings, including medical, rehabilitation, mental health, and surgical environments.

Course Descriptions

NURS2020 ALTERATIONS & THERAPEUTICS I
Prerequisites: NURS1021, NURS1050
Students study human pathophysiology related to alterations in select biophysical and psychosocial health. Students continue to gain competence in the assessment of multiple body systems, application of nursing therapeutics, and the safe calculation and administration of medication.

NURS2021 ALTERATIONS & THERAPEUTICS II
Prerequisites: NURS2020
Students build on learning from Alterations and Therapeutics I and the study of human pathophysiology related to alterations in select biophysical and psychosocial health. Students continue to gain competence in the assessment of multiple body systems, application of nursing therapeutics, and the safe calculation and administration of medication. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS2050 NURSING PRACTICE FOR ACUTE HEALTH
Prerequisites: NUPN2050
Co-requisites: NURS2010
Students are assigned to various practice settings to care for persons experiencing acute, episodic, and life threatening mental and physical health challenges within a person-family centered framework. During this integrative practice experience, students apply theory and demonstrate cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care with persons/families and members of the inter-professional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS2101 PERSPECTIVES OF FAMILY HEALTH
Prerequisites: NURS1021, NURS1050
Students learn the theoretical basis of family health. Emphasis is on family structure, dynamics, transitions, and social determinants that impact the health and functioning of families. Attention is given to common health related challenges that families encounter. Students explore the organization of health services that promote and sustain the health of families and communities, including primary health care, public health, health promotion and the prevention of illness, populations at risk for disruptions in health, environmental health, cultural health patterns and beliefs, group dynamics and communications with groups.

NURS2102 PERSPECTIVES OF MATERNAL & NEWBORN HEALTH
Prerequisites: NURS1021, NURS1050
Co-requisites: NURS2401
This course provides an introduction to maternal and newborn nursing care using a family-centered approach. The focus is on care provided throughout the childbearing continuum from preconception, pregnancy, labor, birth, and the postpartum period. Newborn nursing focuses on care of the infant during the normal transition to extrauterine life. Health promotion and health challenges that present during the maternal and newborn period are explored. Evidence-informed care and a collaborative approach are emphasized in examining nursing interventions and nursing responsibilities.

NURS2103 PERSPECTIVES OF PEDIATRIC & ADOLESCENT HEALTH
Prerequisites: NURS1021, NURS1050
Co-requisites: NURS2401
Students expand their knowledge in pediatric and adolescent (0-18 years) health perspectives, with study of content essential for the provision of effective nursing care for the pediatric population and their families, with emphasis on the community setting. This course explores what it means to be a healthy child or adolescent in society and how nursing students can influence children/adolescents towards wellness. Influences of global, regional, and local issues such as poverty, food insecurity, the impact of media and social media on child development, and emerging threats to child and adolescent health associated with issues such as bullying, addictions, and disordered eating are examined. The experience of being a modern-day child or adolescent is critically explored to enhance student understanding of health and wellness.

NURS2104 PERSPECTIVES OF FAMILY & COMMUNITY HEALTH
Prerequisites: NURS3104
Students examine various theories and evidence to compare diverse perspectives about what creates and compromises health. Emphasis is on family structure, dynamics, transitions, and social determinants that impact the health and functioning of families. Students explore the organization of health services that promote and sustain the health of families and communities, including primary health care, public health, health promotion and the prevention of illness, populations at risk for disruptions in health, environmental health, cultural health patterns and beliefs, group dynamics and communications with groups. A 36-hour health promotion project is a required component of the course.

NURS2401 NURSING PRACTICE FOR FAMILIES
Prerequisites: NURS1021, NURS1050
Co-requisites: NURS2102, NURS2103
Students are assigned to various practice settings to care for families within a person and family-centered framework. During this integrative practice experience, students provide nursing care for infants, children, adolescents, and childbearing individuals. Clinical simulation facilitates increased proficiency in nursing practice.

NURS2491 NURSING PRACTICE FOR ACUTE HEALTH I
Prerequisites: NURS2401
Co-requisites: NURS2010
In this first acute health practicum, students are assigned to various medical practice settings to care for persons experiencing acute, episodic, and life-threatening health challenges within a person-family centered framework. During this integrative practice experience, students apply theory and demonstrate cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of adults and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

Course Descriptions

NURS2492 NURSING PRACTICE FOR ACUTE HEALTH II

Prerequisites: NURS2491

In this second acute health practicum, students are assigned to various surgical practice settings to care for persons experiencing acute, episodic, and life-threatening health challenges within a person-family centered framework. During this integrative practice experience, students apply theory and demonstrate cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence-informed practice for safe and effective care of adults and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS3101 PERSPECTIVES OF COMPLEX HEALTH

Prerequisites: (NURS2010 AND NURS2492) OR Entry into PPN B.Sc. N Program

Co-requisites: NURS3401 OR NURS3405

In this course, a holistic approach is used to examine the experience of persons living with high acuity, complex, life-limiting health challenges. Students continue to build on nursing concepts, theories, and evidence related to the care of adults, and learn to care for those with increasing degrees of acuity and complexity with multiple comorbidities. Epidemiology, pathophysiology, diagnostic studies, complex physical and other nursing assessments relevant to acute, complex life-limiting health challenges are examined. Students continue to build competence to be able to practice in acute, intensive, and trauma care settings with adult populations.

NURS3102 PERSPECTIVES OF CHRONIC HEALTH & LIFE LIMITING CONDITIONS

Prerequisites: NURS2010, NURS2492

Co-requisites: NURS3401 OR NURS3405

Students examine the experience of living with chronic illness and incurable, life limiting diseases including common complications. Epidemiology, pathophysiology, diagnostic studies, complex physical and other nursing assessments relevant to common chronic health challenges, including mental health disorders are examined. A holistic perspective is taken to examine the challenges of ongoing health management, health promotion, palliative care and end of life care faced by chronically ill persons and their families with life-limiting diseases. Students are prepared to practice in primary care, long-term care, rehabilitative, and palliative care settings.

NURS3103 TRANSITION TO PROFESSIONAL NURSING

Students transitioning from a practical nurse to a professional nurse learn the autonomous scope of practice of the registered nurse within a person and family-centered framework. Professional identity, leadership, legal, and ethical aspects, as well as regulatory standards and competencies guiding professional registered nursing are explored. Registered nurses' theoretical knowledge, ways of thinking and reasoning, clinical judgment, evidence-informed practice, and the collaborative nature of registered nursing within an interprofessional team are emphasized. Students initiate learning plans and professional portfolios, which they continue to develop throughout the nursing program.

NURS3104 KNOWLEDGE & INNOVATION IN NURSING

Students transitioning from a diploma to a baccalaureate degree gain essential knowledge for advancing the nursing profession and health care. Professional nurses' ways of thinking and reasoning, professional, ethical, and legal standards and relational practice for managing in rapidly changing healthcare systems is focus. Attention is given to the crucial role of nursing in healthcare innovation to enhance healthcare delivery, patient and family experiences, and health outcomes. Students initiate learning plans and professional portfolios, which they continue to develop throughout the nursing program.

NURS3391 ADVANCED HEALTH ASSESSMENT & THERAPEUTICS I

Students explore the theoretical and practical aspects of comprehensive health assessments, pharmacotherapeutics, and nursing therapeutics for select altered states of health. Students integrate theories, diagnostic, critical, and clinical reasoning, and professional, legal, and ethical practice in the conduct of health assessment and therapeutics for persons across the life course. Emphasis is on recognizing deviations from the normal and prioritizing actions for safe and effective person-centered care. Learning is applied in a mandatory three-hour weekly supervised lab and simulations.

NURS3392 ADVANCED HEALTH ASSESSMENT & THERAPEUTICS II

Prerequisites: NURS3391

Building on learning from prior coursework, this course continues to explore the theoretical and practical aspects of comprehensive health assessment, pharmacotherapeutics, and nursing therapeutics for altered states of health. Students integrate theories, diagnostic, critical, and clinical reasoning, and professional, legal, and ethical practice in the conduct of health assessment and therapeutics for persons across the life course. Emphasis is on recognizing deviations from the normal and prioritizing actions for safe and effective person-centered care. Learning is applied in a mandatory three-hour weekly supervised lab and simulations. Learning is applied in a mandatory three-hour weekly supervised lab and simulations.

NURS3401 INTEGRATED NURSING PRACTICE I

Prerequisites: NURS2010, NURS2492

Co-requisites: NURS3101, NURS3102

During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with high acuity, complex, chronic, and life-limiting mental health challenges. Students are prepared to work in various mental health settings. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS3402 INTEGRATED NURSING PRACTICE II PREREQUISITES: NURS3401

During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with chronic and life-limiting health challenges. Students are prepared to work in various long-term care, rehabilitative, and chronic care units. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS3403 INTEGRATED NURSING PRACTICE III

Prerequisites: NURS3401

During this integrated specialty nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with high acuity, complex, and life-limiting health challenges. Students are prepared to work in various specialty and acute care units. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS3404 PD EXPLORATORY NURSING PRACTICE I

Prerequisites: NURS2104, NURS3392

Students refine entry-level nursing competencies through an immersion experience in a nursing practice area of their choice. Under the supervision of an instructor or preceptor, students can complete a clinical rotation, conduct a research or quality assurance project, or engage in an entrepreneurial or technological innovation initiative. Through this exploratory experience, students tailor their learning to enhance their competence in a specialized practice area that aligns with their career interests. Students who choose the research or project route may continue their research or project in other exploratory courses.

NURS3405 POST LPN INTEGRATED PRACTICE I

Co-requisites: NURS3101, NURS3102

During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with experiencing acute, episodic, and life-threatening health challenges within a person-family centered framework. Students are prepared to work in medical and surgical practice settings. Students demonstrate cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of adults within the interprofessional team. Clinical simulations facilitate increased competence in nursing practice.

NURS3406 POST LPN INTEGRATED PRACTICE II

Prerequisites: NURS3405

During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with acute and chronic mental health challenges. Students are prepared to work in various mental health settings. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS3407 POST LPN INTEGRATED PRACTICE III

Prerequisites: NURS3406

During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with chronic and life-limiting health challenges. Students are prepared to work in various long-term care, rehabilitative, and chronic care units. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS4101 BEST PRACTICES & QUALITY IMPROVEMENT

Prerequisites: Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC

Students explore how quality improvement is used as a framework to standardize processes and structure to reduce variation, achieve predictable results, and systematically improve outcomes for patients, healthcare systems, and organizations. The components of professional practice, evidence-based best practices, requirements for quality and safety, and quality improvement approaches and models are be analyzed. Principles and frameworks for project planning and management are examined. Students complete a quality improvement project.

NURS4102 ORGANIZATION OF THE NURSING PRACTICE

Prerequisites: Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC

Students critically examine local and global contemporary issues that affect the organization and delivery nursing practice. The role of nurses is explored from a wider social perspective, including the political, economic, sociocultural, technological, legal, and regulatory, and environmental landscape. As students prepare to transition to an entry-level registered nurse, a focus is on professional career development that includes values clarification, professional image, nursing leadership, nursing licensure and regulation, and continuing professional development. Students critique theories that guide nursing practice, education, and healthcare delivery models.

NURS4103 CRITICAL ANALYSES OF GLOBAL HEALTH TRENDS FOR NURSES

Prerequisites: Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PDip. B.Sc. N Program OR Entry into PD INIC

Students apply concepts, theories, and evidence related to population and global health issues from a human rights and equity framework. There is a focus on interprofessional, interdisciplinary and intersectoral collaboration to prevent and address global and population health challenges and inequities. Students critically examine the role of health care professionals in addressing population and global health challenges including delays in meeting sustainable development goals.

NURS4104 ADAPTIVE LEADERSHIP & CLINICAL MANAGEMENT

Prerequisites: Min 50 Nursing Credits; OR Entry into PPN B.Sc. N Program OR Entry into PD INIC

Students are introduced to adaptive leadership and its application for clinical leadership and management in nursing. There is a focus on the principles, tools, and techniques of adaptive leadership to mobilize, motivate, organize, and focus intra- and interprofessional healthcare teams to address the complexities and change for enhanced health care and health care delivery. Students apply learning by completing a 36-hour quality improvement assignment.

NURS4105 CLINICAL MANAGEMENT & BUSINESS BASICS FOR NURSES

Prerequisites: Min 50 Nursing Credits

Students integrate business principles with healthcare practices to manage and lead teams in clinical settings. Emphasis is on strategic and business planning, human resource management, financial acumen, project management, and the accreditation of healthcare organizations.

NURS4106 ADAPTIVE LEADERSHIP FOR NURSES

Prerequisites: NURS3104, NURS4101, NURS4102

Students are introduced to adaptive leadership and its application in nursing. There is a focus on understanding barriers to change and the principles, tools, and techniques of adaptive leadership to mobilize, motivate, organize, and focus intra- and interprofessional healthcare teams to address the complexities and change for enhanced health care and health care delivery. Attention is given to interprofessional competencies and collaborative practice to advance health care and patient outcomes.

Course Descriptions

NURS4401 EXPLORATORY PRACTICE FOR NURSES
Prerequisites: NURS3403
Students complete a placement in a nursing practice area of their choice. The practice immersion experience allows students to integrate and refine entry-level competence in a clinical practice area of their interest. The course can be used for those planning an advanced practice pathway, conducting a research or quality assurance project, engaging in an entrepreneurial or technological innovation, or an international exchange experience.

NURS4402 CONSOLIDATION OF NURSING PRACTICE
Prerequisites: NURS3403
During this final consolidated clinical practice experience, students perform nursing care with increasing autonomy and proficiency. Students consolidate competencies to provide evidence-based care including assessments, plans of care, and nursing therapeutics. Students perform with increasing autonomy and competence to recognize deviations from normal, to act for unanticipated complications, and to appropriately escalate care.

NURS4403 PD EXPLORATORY NURSING PRACTICE II
Students engage in a second immersion experience in a nursing practice area of their choice. Under the supervision of an instructor or preceptor, students can complete a clinical rotation, conduct a research or quality assurance project, or engage in an entrepreneurial or technological innovation initiative. Students may choose to continue with a research, quality improvement, or technological innovation project that they initiated during Exploratory I or they may opt to complete a rotation in a clinical area of practice. Through this exploratory experience, students continue to tailor their learning to enhance their competence in a specialized practice area that aligns with their career interests.

NURS4404 PD EXPLORATORY NURSING PRACTICE III
Prerequisites: NURS3404
Students engage in a third immersion experience in a nursing practice area of their choice. Under the supervision of an instructor or preceptor, students can complete a clinical rotation in a clinical rotation, conduct a research or quality assurance project, or engage in an entrepreneurial or technological innovation initiative. Students may choose to continue with a research, quality improvement, or technological innovation project started during Exploratory II or they may opt to complete a rotation in a clinical area of practice. Through this exploratory experience, students continue to tailor their learning to enhance their competence in a specialized practice area that aligns with their career interests.

NURS4405 PD EXPLORATORY NURSING PRACTICE IV
Students engage in a final immersion experience in a nursing practice of their choice. Under the supervision of an instructor or preceptor, students may choose to complete a research, quality improvement, or technological innovation project started during previous exploratory courses, or they may opt to complete a rotation in a clinical area of practice. Through this final exploratory experience, students refine their learning to enhance their competence in a specialized practice area that aligns with their career interests.

NURS4407 POST LPN INTEGRATED PRACTICE IV
Prerequisites: NURS3406
During this integrated nursing practice experience, students apply concepts, theories and evidence learned in the theoretical courses about caring for persons with complex, high acuity, and life-threatening health challenges. Students are prepared to work in various specialty, complex care units. Students demonstrate increasing competence in cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care of persons/families and members of the interprofessional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

NURS4408 POST LPN CONSOLIDATION PRACTICE
Prerequisites: NURS4407
During this consolidated clinical practice experience, students perform nursing care with increasing autonomy and proficiency. Students consolidate competencies to provide evidence-based care including assessments, plans of care, and nursing therapeutics. Students perform with increasing autonomy and competence to recognize deviations from normal, to act for unanticipated complications, and to appropriately escalate care.

NURS4409 POST LPN EXPLORATORY PRACTICE
Prerequisites: NURS4408
Students complete a final placement in a nursing practice area of their choice. The practice immersion experience allows students to integrate and refine entry-level competence in a clinical practice area of their interest. The course can be used for those planning an advanced practice pathway, conducting a research or quality assurance project, engaging in an entrepreneurial or technological innovation initiative, or an international exchange experience.

PHYS1020 GENERAL PHYSICS
Co-requisites: PHYS1021
Physics is the scientific and mathematical basis on which higher technical courses are built. This introductory physics course is primarily intended for engineering students to provide them with an opportunity to gain a thorough understanding of some fundamental concepts and laws in Mechanics. Topics covered include kinematics in one and two dimensions, the concept of force and Newton's Laws of motion, work and energy, momentum, rotational motion, static equilibrium and elasticity. Through a combination of lectures and problem-solving exercises, students are provided with the opportunity to develop the skills and knowledge necessary to analyze and solve a variety of real-life engineering physics problems.

PHYS1021 GENERAL PHYSICS (LAB)
Co-requisites: PHYS1020
Physics laboratory courses help students process and visualize concepts that are learned in the theory course. This course will help students further understand the topics such as: motion in one dimension, motion due to gravitational acceleration, vectors, Newton's laws of motion, frictional forces, conservation of energy, linear momentum and collisions, rotation of a rigid body about a fixed axis and elasticity. Experiments will utilize technology and computers to collect measurements and analyze data.

PHYS1030 HEALTH SCIENCES PHYSICS
Co-requisites: PHYS1031
Physics is a study of nature and natural phenomena and is essential to advancements in healthcare. This course will foster students' competency in basic physics principles and concepts in mechanics, waves, heat, sound, and electricity. Through lectures, class discussions, and problem solving, students will be able to apply these concepts to their healthcare profession.

Course Descriptions

PHYS1031 HEALTH SCIENCES PHYSICS (LAB)
Co-requisites: PHYS1030
Laboratory courses help students process and visualize concepts that are learned in theory courses. Through the application of physics principles and concepts, this course helps students further understand the topics learned in Health Science Physics, extending their competency in data handling, data analysis, experimentation, and problem-solving.

PHYS1130 MEDICAL IMAGING PHYSICS
This course enables students to develop a basic understanding of the physics principles underlying medical imaging technologies. Topics include X-ray radiography, nuclear medicine, magnetic resonance, and ultrasound.

RSST1001 QUALITATIVE DESIGNS & ANALYSES
In this course, students are introduced to philosophical and methodological approaches to qualitative health research. Emphasis is on strategies for critically reviewing, integrating, and disseminating qualitative health research findings. Students conduct critical appraisals and gain skill in the application of research to inform practice.

RSST3001 RESEARCH & STATISTICS
Prerequisites: COMM1020
Familiarity with the core principles of research is important for evidence-based analysis and decision-making across multiple professions. Students understand current best practices in research approaches, designs, and methods associated with both qualitative and quantitative traditions. Further, they utilize the skills and knowledge gained in the course to evaluate sample data sets, conduct analyses, interpret outcomes, and report their findings.

RSST3002 PROBABILITY & STATISTICAL ANALYSIS
Prerequisites: MATH2010
Probability theory and statistical knowledge is important for engineering and other scientific fields as it provides an understanding of how data is collected and analyzed. This introductory probability and statistics course is intended for students in a variety of study areas and research fields. Students apply fundamental concepts in statistics to interpret results of a variety of statistical techniques from descriptive and inferential statistics in order to critically review and analyze statistical information. Students are introduced to various concepts in probability and the use of different probability distributions to solve problems.

SCIE1001 SCIENCE & ITS APPLICATIONS
Understanding the basic methods behind scientific discoveries and how they impact daily life is important for understanding how the world around us is connected. This course introduces students to various disciplines of science and their relationships to everyday applications. The course investigates how science has shaped our daily lives though technology, and how using science and the scientific method has solved problems in the past and how it will evolve to solve problems of the future. This course introduces students to the interdisciplinary approach to science through discussions of biology, chemistry, mathematics, physics and how they apply to real-word situations and problems. Through lectures, class discussion and individual research, students investigate such topics as climate change, medicine, communications, energy and space travel.

SCIE1002 SCIENCE & THE ENVIRONMENT
Science has a direct impact on the environment, and it is important that this relationship be understood to protect the future health of people and the environment. This course is intended for students in social science programs of study as an introduction to science domains and how science impacts the environment. The emphasis is on local and global environmental issues and crises, how they develop, and how science contributes to their resolution. Environmental issues are investigated through case studies, research, and group discussions.

SOFT2101 SOFTWARE ENGINEERING PRINCIPLES
Pre-requisites: INFS1201
This course introduces the student to the theory and practice of software engineering with a focus on the fundamental concepts and principles of software development. Students explore the software development lifecycle including requirements engineering, software design principles and techniques, testing strategies, and software maintenance. The course covers the different types of software processes, the methodologies used in building software with emphasis on agile methods, and software project management basics. In addition, the students are introduced to the ethical and professional issues in software engineering and the importance of effective communication and teamwork in software development projects.

SOFT2301 SOFTWARE PROJECT MANAGEMENT
Pre-requisites: SOFT2101
This course provides an introduction to the basic processes of project management for instructional design projects and familiarizes students with different concepts of software project management mainly focusing on project analysis, scheduling, resource allocation, risk analysis, monitoring, control and software configuration management. Students learn to use project management software for organizing, scheduling and monitoring project progress. The in class activities provide real-world examples and ask students to apply and expand their academic program of study.

SOFT3201 SOFTWARE ARCHITECTURE & DESIGN
Pre-requisites: INFS3103, INFS3201, Min 50 Credits
This course focuses on the process of designing a software system by building multi-tier applications and integrating different tiers and systems together. Object Relational Mapping (ORM) is introduced in this course, and students examine current and emerging trends and techniques for developing multi-tier system effectively. Topics include documenting integration requirements using business process models, designing system integration solutions, and implementing integration solutions using Service Oriented Architecture. Students learn to create API's and microservices as well as their deployment to integrate different systems. Students design a complete system and integrate all system tiers together.

SOFT3202 DESIGN PATTERN & MODELING
Pre-requisites: INFS3102
This course introduces students to the theory and practice of software design patterns and software architecture with a focus on the fundamental concepts and principles of object- oriented (OO) analysis and design. Students explore design patterns (creational, structural and behavioral patterns), architectural patterns, anti-patterns, object-oriented design principles and programming idioms. The course covers the practice and application of object-oriented software development principles through projects.

Course Descriptions

SOFT4101 GAME ENGINEERING
Pre-requisites: INFS3201
This course is designed to provide students with a comprehensive introduction to the fundamentals of game development. The course begins with an overview of game design principles, including game mechanics, user interface design, and storytelling. The course covers up-to-date software tools, game engines and techniques used in the development of games..

SOFT4102 DESIGN THINKING FOR SOFTWARE ENTREPRENEURSHIP
Pre-requisites: INFS3102
This course introduces entrepreneurship and design thinking for software engineering students. Students learn the fundamental principles of entrepreneurship, including identifying opportunities, developing business models, and creating value propositions. Additionally, students learn about design thinking and how it can be applied to software engineering projects. Through a combination of lectures, case studies, and hands-on exercises, students gain the knowledge and skills needed to develop entrepreneurial ventures and apply design thinking to software engineering challenges.

SSHA1001 ISLAMIC & ARAB CIVILIZATION
This course examines the development of the Islamic & Arab civilization, its significance in the social, political, and cultural domains, in addition to its contributions to human society in different areas. The course combines historical and theoretical approaches but places greater emphasis on the practical approach, as it examines how the development, thought, and institutions of Islamic & Arab civilization manifest themselves in modern Arab & Muslim societies and geographies. In light of Qatar National Vision, students reflect on the importance of Islamic & Arab civilizational theories and values in order to understand, sustain, and thrive within a society rooted in ideals of justice and openness in a world with ever-changing political, economic, and social conditions.

SSHA1002 INTRODUCTION TO SOCIOLOGY
Sociology focuses on the systematic understanding of important aspects of social interaction, organization, institutions, and change. This course introduces students to major themes in sociological thinking, including the interplay between the individual and society, how society is both stable and changing, the causes and consequences of social inequality, and the social construction of human life. Students discuss social patterns and how such patterns change over time and in different settings. Through engagement with the social basis of everyday life, students develop critical thinking and understanding of the social structures and processes that shape diverse forms of human life.

SSHA1003 INTRODUCTORY PSYCHOLOGY
Basic knowledge of key psychological concepts is a valuable asset for students in any field of study. This course introduces students to the concept of psychology as a science with emphasis on current experimentation in the field and the various methods of psychological research. Topics include brain and behavior, learning and motivation, cognitive and health psychology, social psychology, and personality development.

SSHA1004 ETHICAL REASONING
Ethical reasoning is a type of critical thinking that uses ethical principles and frameworks to ensure sound decision-making and effective problem solving. This course introduces the theories, methods, and practical problems of ethics and moral philosophy. Topics covered in this course include the nature of ethical reasoning, moral theories of notable philosophers, the concepts of right and wrong, and moral responsibility. The course is designed to help students develop their critical thinking capabilities from an ethical perspective and to better understand various moral problems in today's world.

SSHA1005 LAW & SOCIETY
A general understanding of local law benefits all students. This law and society course focuses on general legal topics targeting non-law students. The legal topics include the definition, sources and classifications of the law, including constitutional law, general principles of human rights, commercial, tort and contract law, intellectual property, data protection and privacy law, labor law, oil and gas regulations, QFC securities law, and international laws. Through application of lecture materials and laws, students explore the fundamentals of the law and assess and problem-solve various regional or international legal situations.

SSHA1006 INTRODUCTION TO THE ARTS
Aesthetic appreciation and experience of the arts is an essential component of personal development and ability to relate to the arts as they form a broader cultural context of expression, social reflection, and critique. This course introduces students to the arts in Qatar through the perspective of the exhibitions curated by Qatar Museums. Students will discuss different art forms and learn how to relate personally to artistic expression, as well as its appreciation. Through engagement with artists, exhibitions and cultural events, students will reflect on their own interpretation of different art forms and the role of the arts in defining contemporary culture. Exposure to a wide range of art-industry practitioners allows students to become aware of the creative market and its opportunities.

TCCO1100 WORKPLACE ORIENTATION
This four-week workplace orientation is an opportunity for Technician Certificate Program students to become familiar with the plant environment within Qatar's Energy and Industry sector. Student trainees learn to demonstrate punctuality, full attendance, effective communication skills, and an exemplary work ethic. Specific company orientation activities are completed during this time.

TCCO1110 HEALTH, SAFETY, & ENVIRONMENT
This course provides students with the theoretical knowledge and applied skills required to identify workplace occupational health and safety issues and environmental hazards. Students gain practical experience in determining appropriate health and safety precautions in order to minimize the risk of personal injury, equipment damage, and loss of production. Students are also introduced to environmental issues within the workplace.

Course Descriptions

TCCO1120 HAND TOOLS
Co-requisites: TCCO1110
This course introduces students to hand tools in the workshop setting. Emphasis is placed on the safe use and selection of hand tools required in the fabrication of electrical installation. Working in mechanical and electrical workshops, students develop the skills needed to effectively use hand tools as required in given tasks, such as sheet metal shaping and pipe/conduit configuration.

TCCO1130 POWER TOOLS
Co-requisites: TCCO1110, TCCO1120
This course introduces the safe usage and accurate selection of power tools required in various installations. In a workshop setting, students gain the necessary skills to safely and accurately identify, use, and care for various types of portable power machines.

TCEL2110 ELECTRICAL FUNDAMENTALS I
Prerequisites: TCCO1110, TCCO1120, TCCO1130
This course introduces students to electrical fundamentals including the basic concepts of electricity, Ohm's Law, capacitance, and inductance, as well as the practical application of electrical measuring instruments. Students learn basic principles of electrical circuits, how to use and manipulate formulas to analyze circuits, and how to safely perform routine electrical measurements.

TCEL2120 ELECTRICAL FUNDAMENTALS II
Prerequisites: TCCO1110
Co-requisites: TCEL2110
This course introduces students to the electrical fundamentals of alternating current (AC) electricity for single-phase electricity and three-phase electricity.

TCEL2130 HAZARDOUS AREAS
Prerequisites: TCCO1110
This course introduces students to the various electrical equipment required for installation in hazardous areas of oil, gas, and petrochemical plants. The course provides an overview of hazardous area classification, appropriate permits required to work in hazardous areas, and an introduction to industry standard electrical explosion proof equipment. Safe work practices, while operating in hazardous areas will be emphasized.

TCEL2210 CONDUCTORS & CABLES
Prerequisites: FTMA1100, FTMA1200, TCCO1120, TCCO1130
This course introduces students to the characteristics, installation, and inspection of conductors and cables. Students learn international tables as well as standards. Emphasis is placed on workplace safety while developing the skills to safely handle conductors and cables.

TCEL2220 ELECTRICAL DRAWINGS
Prerequisites: TCCO1110
This course introduces students to various drawings used in the electrical industry. Students gain practical experience using drawings to create and trace a circuit.

TCEL2230 ELECTRICAL TRANSFORMERS
Prerequisites: TCCO1110
Co-requisites: TCEL2220
This course introduces students to the components, characteristics, applications, and operations of electrical transformers. Students gain knowledge and applied skills regarding single and three phase transformers and their connections to perform basic maintenance checks.

TCEL2240 ELECTROMAGNETIC DEVICES
Prerequisites: TCEL2110, TCEL2120, TCCO1110, TCCO1120, TCCO1130
Co-requisites: TCEL2220
This course introduces students to the operations, characteristics, and applications of various electrical relays, contactors, and solenoids. Students learn about electrical relays, contactors, and solenoid basic operating principles. Using an electrical circuit drawing, students also learn to draw, install, and operate electrical relays, contactors, and solenoids.

TCEL2310 SWITCHGEAR & PROTECTION
Prerequisites: TCCO1110, TCEL2240
This course introduces the classification and application of low, medium, and high voltage switchgear. The course also provides an overview of the types, applications, and selection of low voltage circuit breakers. Students learn how to remove, install, and administer multiple tests of circuit breakers from training switchboards, as well as how to identify the voltage and current ratings of fuses. Using standard maintenance procedures, students develop the skills to assist in the operation and testing of industrial standard low and medium voltage switchgear.

TCEL2311 AC GENERATORS
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCEL2110, TCEL2120 TCEL2220, TCEL2240
This course introduces the components, characteristics, applications, and operations of alternating current (AC) generators. Applying safe operating procedures, students gain the knowledge and skills necessary to operate AC generators as stand-alone power sources as well as in parallel with other sources of power.

TCEL2320 POWER SUPPLY & UPS
Prerequisites: TCCO1110, TCEL2120, TCEL2220, TCEL2240
Co-requisites: TCEL2310
This course introduces the operation, characteristics, and applications of different power supplies including uninterruptable power supplies (UPS). In a hands-on setting, students learn how to connect and operate UPS systems following safe procedures.

TCEL2321 PLC II
Prerequisites: FTMA1200, TCCO1110, TCCO1120, TCEL2110, TCEL2240
Co-requisites: TCEL2330, TCEL2340, TCEL2350
This course continues the study of programmable logic controllers (PLC). Students learn the theory and applied skills related to general PLC concepts for discrete controls with analog inputs, analog control, and remote input/output.

TCEL2330 ELECTRIC MOTORS
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCEL2110, TCEL2120, TCEL2220
This course introduces the components, characteristics, applications, and operation of electrical motors. Students learn about electromechanical fundamentals and how to read and record information drawn from motor drawings and nameplates. They also learn how to identify common motor connections.

TCEL2340 MOTOR CONTROLS & DRIVES
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCEL2110, TCEL2120, TCEL2220
Co-requisites: TCEL2330
This course introduces students to motor controls and concepts. Students learn to identify electrical symbols and to use these symbols in preparing and interpreting electrical motor control and drive schematics. Students also learn to install, operate and troubleshoot soft starters and alternating current (AC) drives.

Course Descriptions

TCEL2350 PLC I
Prerequisites: FTMA1200, TCCO1110, TCCO1120, TCEL2120
This course introduces students to general programmable logic controllers (PLC) concepts, programming languages, and related techniques. In this course, students use both physical input and output (I/O) devices, internal bits, and Human Machine Interface (HMI) to monitor and control industrial applications.

TCEL3100 WORKSITE PRACTICUM
This 24-week course is a requirement for Technician Certificate (Electrical) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Electrical program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance / operations staff and assessors. Students are expected to apply knowledge and skills gained from the Electrical program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

TCIN2110 ELECTRICAL CIRCUITS
Prerequisites: TCCO1110, TCCO1120
This course introduces students to the basic operating principles of an electric circuit. Topics covered include electrical circuit components, measurement of electrical parameters on direct current (DC) and alternating current (AC) circuits, the application of electrical laws, and principles in the measurement of control loops, alarm systems, and protection systems.

TCIN2120 PROCESS CONTROL FUNDAMENTALS
Prerequisites: TCCO1110, TCCO1120, FTMA1100
This course introduces students to work permits and hazardous area classification and provides them with a fundamental knowledge of process control systems. Students identify process variables and sensors used to measure and monitor plant operation. Students also learn the importance of controlling the four fundamental process variables that are important to process equipment, including pressure, level, flow, and temperature.

TCIN2130 INSTRUMENTATION DRAWINGS
Prerequisites: TCCO1110, TCCO1120, TCCO1130
This course introduces students to a variety of drawings commonly used for instrument maintenance in an industrial plant. Students are expected to read and use piping and instrument drawings (P&ID), process flow drawings (PFD), instrument loop drawings (ILD), electrical drawings (schematic and ladder/control drawings), and logic drawings.

TCIN2140 ELECTRONIC CIRCUITS
Prerequisites: TCCO1110, TCCO1120
Co-requisites: TCIN2110
This course introduces students to the basic operating principles and applications of electronic circuits. Students develop the skills required to construct a basic direct current (DC) power supply, test uninterruptable power supplies (UPS), and program and test microcontrollers.

TCIN2210 INSTRUMENT AIR SUPPLY SYSTEM
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCIN2130
This course provides students with the necessary theoretical knowledge and practical skills to construct, operate, and maintain the major components of a simple instrument air supply system. Selected topics include instrument tube and pipe fittings, instrument air supply systems, filter/pressure regulators, and pressure gauges.

TCIN2220 PNEUMATIC COMPONENTS & VALVES
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCIN2120, TCIN2130
Co-requisites: TCIN2210
This course introduces students to pneumatic system components and valves. Students are provided with the necessary knowledge and hands-on skills to identify, test, and calibrate pneumatic components.

TCIN2230 PRESSURE CONTROL LOOP
Prerequisites: TCCO1110, TCCO1120, TCIN2130
Co-requisites: TCIN2220
This course provides students with the necessary knowledge and skills to measure, control, and maintain the operation of pressure control loops with sensors, transmitters, controllers, and final control elements.

TCIN2240 PROCESS CONTROL TUNING
Prerequisites: TCCO1110, TCCO1120, FTMA1200
Co-requisites: TCIN2230
This course introduces students to basic control loop tuning. Students learn how to adjust control parameters (proportional band/gain, integral/reset, and derivative/rate, etc.) to the optimum values for a desired control response. Students also learn how a simple change in a process variable affects the output of a controller in proportional band, integral, and derivative control mode.

TCIN2310 LEVEL CONTROL LOOP
Prerequisites: TCCO1110, TCCO1120, TCIN2110, TCIN2120, TCIN2220, TCIN2240, TCIN2130
This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of level control loops with sensors, transmitters, controllers, and final control elements.

TCIN2311 ONLINE ANALYTICAL INSTRUMENTS
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCIN2110 TCIN2140, FTMA1100
This course provides students with an introduction to online analytical instruments commonly used in the petroleum industry. Students gain the knowledge and skills required to identify various types of online analyzers with a focus on conductivity monitoring systems and pH monitoring systems.

TCIN2320 FLOW CONTROL LOOP
Prerequisites: TCCO1110, TCCO1120, FTMA1200, TCIN2110, TCIN2120, TCIN2130, TCIN2220, TCIN2230, TCIN2240
Co-requisites: TCIN2310
This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of flow control loops with sensors, transmitters, controllers, and final control elements.

TCIN2321 FIRE & GAS ALARM SYSTEMS
Prerequisites: TCCO1110, TCCO1120, TCCO1130, TCIN2110 TCIN2140
This course provides students with an introduction to fire and gas safety protection systems used in the workplace. Students are provided the opportunity to attain the knowledge and skills required to identify, check, and calibrate the components of fire and gas alarm systems.

TCIN2330 TEMPERATURE CONTROL LOOP
Prerequisites: TCCO1110, TCCO1120, TCIN2110, TCIN2120, TCIN2130, TCIN2220, TCIN2240
This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of temperature control loops with sensors, transmitters, controllers, and final control elements.

Course Descriptions

TCIN2331 ROTATING MACHINERY VIBRATION
Prerequisites: TCCO1110, TCIN2130, TCIN2110, TCIN2140
This course provides students with an understanding of vibration in rotating machinery. Students learn the basic skills required to detect vibration and to maintain the operation of a vibration monitoring system.

TCIN2340 ADVANCED CONTROL LOOPS
Prerequisites: TCCO1110, TCCO1120, TCIN2110, TCIN2120, TCIN2230
Co-requisites: TCIN2310, TCIN2320, TCIN2330
This course provides students with an understanding of advanced control loops. Students are introduced to process control strategies, techniques, and technologies implemented within industrial process control. Topics include split range, ratio, cascade, and feed-forward control. Students also learn about anti-surge control systems.

TCIN2350 PLC I
Prerequisites: TCCO1110, TCCO1120, TCIN2110, TCIN2140, TCIN2230
Co-requisites: TCIN2310, TCIN2320, TCIN2330
This course introduces students to general concepts, programming techniques, and programming languages for both digital and analog inputs and outputs. In this course, students use both physical input and output (I/O) devices and graphical interface I/O to monitor and control specific applications.

TCIN2360 DCS & FIELDBUS
Prerequisites: TCCO1110, TCIN2230, TCIN2240, FTMA1200
Co-requisites: TCIN2310, TCIN2320, TCIN2330, TCIN2350
This course introduces students to concepts related to distributed control systems (DCS) and fieldbus networks. Students gain a fundamental background in DCS hardware, loop configurations, and data management systems. Students learn how to configure control loops using DCS function blocks, design graphic windows, display operation screens, and change block modes and set points, as well as how to design control programs using sequence tables and related components. Students gain knowledge and applied skills with the Centum VP DCS, as well as DELTAV DCS. Students also learn to diagnose problems with distributed control systems and to make adjustments as required.

TCIN3100 WORKSITE PRACTICUM
This 24-week course is a requirement for Technician Certificate (Instrumentation) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Instrumentation program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Instrumentation program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

TCME1110 HAND TOOLS
Co-requisites: TCCO1110
This course introduces students to hand tools in the workshop setting. Emphasis is placed on the safe use and selection of the hand tools required in the fabrication of electrical installation. Working in industrial workshops, students develop the skills needed to effectively use hand tools as required to perform given tasks.

TCME1120 PRECISION MEASURING TOOLS
Prerequisites: TCCO1110, TCME1110
This course introduces students to precision measuring tools commonly used in the workplace. Students select and safely utilize appropriate precision measuring tools to perform given tasks. Topics include systems and units of measurement, as well as tool selection, operation, calibration, and maintenance. This course provides the basis for the mechanical maintenance of plant equipment and is the foundation for subsequent mechanical courses.

TCME2110 TECHNICAL DRAWINGS
Prerequisites: TCCO1110, FTMA1100
This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students gain an understanding of technical drawings and learn to develop and interpret freehand sketches and basic engineering drawings.

TCME2120 MACHINE TOOLS
Prerequisites: TCCO1110
Co-requisites: TCME1120
This course introduces students to advanced machine tools used in the workplace so they can select and safely utilize appropriate machine tools to perform given tasks. Students gain the necessary knowledge and skills to perform basic maintenance checks on machine tools to keep them in safe, operating condition. This course provides the basis for the mechanical maintenance of plant equipment and is the foundation for subsequent mechanical courses.

TCME2130 ENGINEERING MATERIALS
Prerequisites: TCCO1110, TCME1110
This course provides students with the theoretical knowledge and practical skills required to maintain valves and related components. Topics include valve classifications, valve applications, maintenance procedures, hydro-testing, and safety valve calibration.

TCME2210 PIPES, GASKETS, & THREADS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with the requisite knowledge and skills to safely thread, install, and maintain pipes, tubes, flanges, and blinds. This course also covers the selection, removal, and assembly of gaskets and fittings.

TCME2220 VALVES
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with an introduction to the identification of engineering materials for specific applications. Students develop the knowledge and skills necessary to perform heat treatment techniques as well as permanent/ temporary joining methods.

TCME2230 HEAT EXCHANGERS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
Co-requisites: TCME2130
This course provides students with the theoretical knowledge and practical skills required to maintain heat exchangers and related components. Topics covered include principles of heat transfer, heat exchanger classification, and maintenance procedures for shell-and-tube heat exchangers.

TCME2240 FILTERS & STRAINERS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
In this course, students develop the skills necessary to install and maintain filters and strainers in the workplace. The operating principles and applications of filters and strainers are covered. Students are also provided with hands-on skill development regarding filter and strainer installation and maintenance.

Course Descriptions

TCME2310 BEARINGS & LUBRICATION
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with the knowledge and skills necessary to maintain bearings as well as lubrication systems within the industrial workplace. Hands-on tasks have been integrated in this course to develop students' skill sets for work with bearing types, bearing applications, maintenance and installation procedures, lubricants, and lubrication systems.

TCME2311 BASIC STATIC EQUIPMENT
Prerequisites: TCCO1110, TCME2110
This course introduces students to basic static equipment used in the petrochemical industry. Students learn the knowledge and skills required to identify boilers, furnaces, process tanks, and containers.

TCME2320 COUPLINGS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with the theoretical knowledge and practical skills necessary to maintain mechanical coupling systems. Students perform maintenance procedures related to couplings, clutches, pulleys, belts, gears, and perform shaft alignment.

TCME2321 TURBO EXPANDERS
Prerequisites: TCCO1110, TCME2110
This course provides students with an introduction to turbo-expanders used within the oil and gas industry. Students gain the knowledge and skills required to identify turbo-expanders, their major components, and related auxiliary systems.

TCME2330 SEALS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
In this course, students develop the skills necessary to maintain mechanical seals within the industrial workplace. Students inspect, remove, repair, and install mechanical seals and gland packing. This course provides the foundation for subsequent courses on pump, compressor, and internal combustion engine maintenance.

TCME2331 GAS TURBINES
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with an introduction to gas turbines and their auxiliary systems. Students develop the skills necessary to assist in performing basic auxiliary system maintenance.

TCME2340 PUMP MAINTENANCE
Prerequisites: TCME1110, TCME1120, TCME2110, TCME2310
Co-requisites: TCME2320, TCME2330
This course provides students with the theoretical knowledge and practical skills necessary to maintain mechanical pumps in the industrial workplace. Students are expected to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

TCME2341 HYDRAULICS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
This course provides students with an introduction to the hydraulic systems used in the oil and gas industry. Students develop the knowledge and skills required to maintain hydraulic systems and major components. Students also construct and operate circuits for a hydraulic system.

TCME2350 COMPRESSORS
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
Co-requisites: TCME2320, TCME2370
This course provides students with the theoretical knowledge and practical skills necessary to maintain various types of compressors in the industrial workplace. Students dismantle, inspect, repair, and reassemble centrifugal, reciprocating, and screw compressors.

TCME2360 IC ENGINES
Prerequisites: TCCO1110, TCME1110, TCME1120, TCME2110
Co-requisites: TCME2320
This course provides students with an introduction to internal combustion (IC) engines and related auxiliary systems. Students gain practical hands-on experience performing basic maintenance procedures on an IC engine.

TCME2370 MAINTENANCE PROCEDURES
Prerequisites: TCCO1110, TCME1110
This course emphasizes the importance of following standard operating procedures (SOP) in performing plant mechanical maintenance. Students are expected to follow maintenance work management systems and demonstrate safe work practices during all maintenance activities.

TCME2380 CONDITION MONITORING SYSTEMS
Prerequisites: TCCO1110, TCME1110
This course introduces the fundamentals of condition monitoring systems used with industrial equipment to monitor machine reliability. Students develop skills in collecting and explaining vibration data.

TCME3100 WORKSITE PRACTICUM
This 24-week course is a requirement for Technician Certificate (Mechanical) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Mechanical program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Mechanical program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

TCPO1110 OPERATOR RESPONSIBILITIES
Co-requisites: TCCO1110
This course introduces students to the basic responsibilities and duties of a process operator, including the fundamentals of plant communication. Students gain the necessary knowledge base regarding personal and process safety responsibilities, safe work practices, production responsibilities, and responsibilities during an emergency and under adverse conditions. Students also gain practical experience in collecting, sending, and receiving technical information in a process plant environment.

TCPO1120 PROCESS PHYSICS
Co-requisites: FTMA1100
This course is designed to introduce students to basic scientific principles related to the operation of a process plant. Physics principles in this course include properties of solids, liquids, and gasses; measurements for force; pressure, power, and efficiency; and modes of heat transfer.

Course Descriptions

TCPO1130 PIPEWORK SYSTEMS
Prerequisites: TCCO1110, TCPO1110
This course introduces students to pipe standards, types of pipe fittings and joints, insulation, and color coding of various process pipework used in the process industry.

TCPO2110 VALVE SYSTEMS
Prerequisites: TCCO1110, TCPO1110
This course introduces students to the main features and operation of various types of valves used in the process industry. Students are provided with the knowledge base and hands-on skills necessary to safely operate a variety of valves, including isolation valves, throttling valves, check valves/non-return valves, and safety-related valves.

TCPO2120 PROCESS WATER SYSTEMS
Prerequisites: TCCO1110, TCPO1110
This course introduces students to process water systems, different types of plant water systems, the basics of treatment systems, and the boiler feed water system. Students gain hands-on training in how to control hazards associated with a boiler feed water system. Students are also introduced to water sampling and testing.

TCPO2130 STEAM SYSTEMS
Prerequisites: TCCO1110
Co-requisites: TCPO2120
This course introduces students to steam production and the steam supply system as one of the utilities/plant services within a process plant. Topics in this course include different types of steam pressure systems and vacuum systems, as well as the basics of steam generation, distribution, and control systems.

TCPO2140 ELECTRICITY SUPPLY SYSTEMS
Prerequisites: TCCO1110, TCPO1110
This course introduces students to the electricity supply system as one of the utilities/plant services within a process plant. Topics covered include the different types of electric power equipment, voltages for different applications, safety aspects, and the consequences of power failure in a process plant. According to standard operating procedures (SOP), students are trained how to safely respond to a simulated electric power failure in a process plant.

TCPO2150 HEAT EXCHANGERS
Prerequisites: TCCO1110, TCPO1110, TCPO1130
Co-requisites: TCPO2110
This course introduces students to the components, features, operation, and control of different types of heat exchangers commonly used in the process plant industry.

TCPO2160 PUMP OPERATION
Prerequisites: TCCO1110, TCPO1110, TCPO1130
Co-requisites: TCPO2110
This course provides students with the knowledge and hands-on skills necessary to safely operate different types of pumps commonly found in process plants. The principles, components, features, operation, and control of different types of pumps commonly used in the process plant industry are covered in this course.

TCPO2170 PRIME MOVERS
Prerequisites: TCCO1110, TCPO1110
This course introduces students to prime movers, including related components, features, and operations. Students gain the necessary skills to operate and control different types of prime movers commonly used in the process plant industry. The course covers the basic function and operation of electric motors, diesel engines, steam turbines, and gas turbines.

TCPO2210 UTILITY GASSES & COMPRESSORS
Prerequisites: TCCO1110, TCPO1110, TCPO1120, TCPO1130
This course introduces students to the plant air system, instrument air system, and the nitrogen system found within a process plant. The course also introduces the basic principles and features of compressor systems used in the process industry. Students gain the knowledge and hands-on skills required to safely operate centrifugal, axial, reciprocating, and rotary compressors.

TCPO2220 STORAGE OF LIQUIDS & GASES
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
This course introduces students to the storage of liquids and gasses in the oil and gas industry, specific to vessels and storage tanks. Students gain the knowledge base and applied hands-on skills necessary to perform the purging, bleeding, and venting of vessels.

TCPO2230 PROCESS DIAGRAMS
Prerequisites: TCCO1110, TCPO1110
In this course, students gain practical experience in reading, interpreting, and drawing process block diagrams, process flow diagrams, and process and instrumentation diagrams (P&ID).

TCPO2240 HEATING FURNACES
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
This course introduces students to heating furnaces used in the process industry. Students gain the knowledge base and applied hands-on skills necessary to safely operate and monitor heating furnaces.

TCPO2250 POLLUTION & CONTROL
Prerequisites: TCCO1110
This course examines the measurement and management of different types and sources of pollution. It emphasizes three major types of pollution: air, water, and land. Methods to prevent and control pollution and the complexities associated with waste management and environmental effects are also learned in this course.

TCPO2301 ACID GAS REMOVAL
Prerequisites: TCCO1110
Co-requisites: TCPO2310, TCPO2320, TCPO2340, TCPO2350, TCPO2360
This course introduces students to acid gas removal (AGR) and acid gas enrichment (AGE) processes in the natural gas processing industry. Topics covered include the processes, operations, control, and monitoring of AGR and AGE. Students gain hands-on experience operating and monitoring these units.

TCPO2310 PROCESS INSTRUMENTATION
Prerequisites: TCCO1110, TCPO2110, TCPO1120, TCPO1130
This course introduces students to the basic instruments used for process variable measurement in the process industry. Topics covered include pressure, level, flow rate, and temperature measuring instruments.

TCPO2311 TURBO EXPANDERS
Prerequisites: TCPO1130, TCPO2110
This course introduces students to the basic principles and operation of turbo expanders used in the process industry. Topics covered in this course include lube oil and seal oil systems and the operation and monitoring of turbo expanders as well as the hazards associated with their operation.

Course Descriptions

TCPO2320 PROCESS CONTROL SYSTEMS
Prerequisites: TCCO1110, TCPO2110, TCPO1120, TCPO1130
In this course, students are provided with the necessary knowledge base to work with process control systems. Topics covered include the basic principles of control loops and digital controllers as well as the basic features of distributed control systems.

TCPO2321 CONDENSATE & TAIL END GAS
Prerequisites: TCCO1110, TCPO2220, TCPO2240
Co-requisites: TCPO2310, TCPO2320, TCPO2330
This course provides an overview of condensate treatment and tail end gas regeneration processes. Students learn about process description, operation, control system of condensate treatment, and tail end gas processes.

TCPO2330 REACTORS
Prerequisites: TCCO1110, TCPO2110, TCPO1120, TCPO1130
Co-requisites: TCPO2310, TCPO2320
This course introduces students to the operation, monitoring, and control of reactors employed within the process industry. Topics covered include catalysts and cooling and heating methods in reactors. Students apply hands-on skills to safely operate a reactor system.

TCPO2331 HYDROGEN PRODUCTION
Prerequisites: TCCO1110, TCPO2220, TCPO2240
Co-requisites: TCPO2310, TCPO2320, TCPO2330
This course introduces hydrogen and the fundamentals of hydrogen production. The students learn about the uses and application of hydrogen in process plants including the operation of hydrogen units. Students learn the fundamentals associated with the processes of hydrocracking, reforming, hydro treatment, and hydrodesulphurization in the petrochemical industry.

TCPO2340 DISTILLATION SYSTEMS
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110, TCPO2160
Co-requisites: TCPO2310, TCPO2320
This course introduces students to the operation and control of distillation modules and systems employed within the process industry. Topics include various types of distillation columns and their operation, monitoring, and control. Safety aspects are also considered. Students gain the knowledge and hands-on skills necessary to safely operate a distillation system.

TCPO2341 STEAM TURBINE UNITS
Prerequisites: TCCO1110, TCPO2220, TCPO2240
Co-requisites: TCPO2310, TCPO2320, TCPO2330
This course provides students with an overview of the operation of steam turbine units used in oil and gas industries. Students learn the main features, components, functions, operations, and monitoring of steam turbine units.

TCPO2350 GAS ABSORPTION DEHYDRATION
Prerequisites: TCCO1110, TCPO2110, TCPO1120, TCPO1130
Co-requisites: TCPO2310, TCPO2320
This course introduces students to the operation and control of gas absorption and dehydration units used within the process industry. Topics include the main features, components, operation, monitoring, and safety aspects related to gas absorption and dehydration units. Students apply hands-on skills to operate a gas absorption system.

TCPO2351 SULPHUR RECOVERY & TAIL GAS
Prerequisites: TCCO1110, TCPO2220, TCPO2240
Co-requisites: TCPO2310, TCPO2320, TCPO2330
This course provides an overview of sulphur recovery (SRU) and tail gas treatment (TGT) processes. Topics covered in this course include SRU and TGT processes, equipment, operation, and control system.

TCPO2360 REFRIGERATION & LIQUEFACTION
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO211, TCPO2210
Co-requisites: TCPO2310, TCPO2320
This course introduces students to the operation and monitoring of refrigeration and liquefaction systems used within the process industry. Topics covered include the principles of refrigeration and gas liquefaction, as well as the components, operation, and monitoring of gas liquefaction and refrigeration units. Students apply hands-on skills to operate refrigeration and gas liquefaction units.

TCPO2361 GAS TURBINES
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
Co-requisites: TCPO2310, TCPO2320
This course introduces students to the operation of gas turbine units used in the natural gas processing and petrochemical industries. Topics covered include the main features, components, functions, operation, and monitoring of gas turbine systems. Students describe gas turbine units and practice safely operating and monitoring these units.

TCPO2370 TROUBLESHOOTING TECHNIQUES
Prerequisites: TCCO1110
In this course, students learn to establish and apply a general troubleshooting methodology to chemical process equipment. Definitions of good/normal performance is discussed for each process/equipment type covered. Criteria for evaluating possible problem solutions are also examined. Students practice troubleshooting real-world chemical process equipment malfunctions.

TCPO2371 LNG PLANT OPERATIONS
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
Co-requisites: TCPO2310, TCPO2320
This course introduces liquefied natural gas (LNG) processes. LNG unit operation, control, and monitoring are covered in this course. Students describe the LNG processes and practice operating and monitoring LNG units.

TCPO2381 GAS TO LIQUIDS OPERATIONS
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
Co-requisites: TCPO2310, TCPO2320
This course introduces gas to liquid (GTL) processes. Topics covered include GTL unit operation, control, and monitoring. Students describe GTL processes and practice operating and monitoring GTL units.

TCPO2391 OIL & GAS SEPARATION
Prerequisites: TCCO1110, TCPO1120, TCPO1130, TCPO2110
Co-requisites: TCPO2310, TCPO2320
This course introduces the operation and monitoring of separator systems in the oil and gas industry. Topics covered include the different types of separators and their components and two-phase and three-phase separators as well as their operation and monitoring.

Course Descriptions

TCPO3100 WORKSITE PRACTICUM
This 24-week course is a requirement for Technician Certificate (Process Operations) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Process Operations program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Process Operations program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

TRAT1510 INSTRUMENTATION DRAWINGS
Prerequisites: TRCO1110
This course introduces students to the fundamentals of drawings commonly used for instrument maintenance. Students learn how to read and use piping and instrument drawings (P&ID), process flow drawings (PFD), instrument loop drawings (ILD), electrical drawings (schematic and ladder/control drawings), and logic drawings.

TRAT1520 INSTRUMENT AIR SUPPLY SYSTEM
Prerequisites: TRCO1130
This course provides students with the fundamental knowledge and applied practical skills to construct, operate, and maintain the main components of a simple instrument air supply system. Selected topics include instrument tube and pipe fittings, instrument air supply systems, filter/pressure regulators, and pressure gauges.

TRAT1530 PROCESS CONTROL FUNDAMENTALS
Prerequisites: TRCO1110
This course provides students with a fundamental understanding of process control systems. Topics include the operating principles and functional components of an industrial control system. Students also learn the importance of controlling the four key process variables: pressure, level, flow, and temperature.

TRAT1540 TECHNICAL DRAWINGS
Prerequisites: TRCO1110, TRCO1120
This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students are provided the opportunity to demonstrate an understanding of technical drawings by creating freehand technical sketches and interpreting basic technical drawings.

TRAT1610 DIGITAL LOGIC CIRCUITS
Prerequisites: TRCO1210, TRCO1330
This course introduces students to the basics of electrical and instrument discrete devices and symbols. Students also gain the fundamental knowledge required for the interpretation of logic diagrams. Applied learning tasks in this course include the construction and testing of simple digital logic circuits.

TRAT1620 MICROPROCESSOR CONTROLLERS
Prerequisites: TRCO1210, TRCO1330, TRCO1340
Co-requisites: TRAT1610
This course provides students with an introduction to microprocessor-based instruments and their configuration using a handheld interface (communicator). Students install, test, and configure transmitters, controllers, positioners, and foundational bus instruments.

TRAT1630 PNEUMATIC COMPONENTS & VALVES
Prerequisites: TRAT1510, TRAT1520, TRAT1530
This course introduces students to pneumatic system components and valves. Students develop the knowledge and hands-on skills required to identify, test, and calibrate pneumatic components and valves.

TRAT1640 PRECISION, LIMITS & FITS
Prerequisites: TRCO1110, TRCO1120, TRAT1540
This course introduces students to the precision measuring tools required to select and safely use precision measuring tools to perform given tasks. Students are introduced to limits, fits, and tolerances so they can apply these principles in real-time industrial settings. Students use the International Table of Limits and Fits to determine appropriate limits, tolerances, and fits. Students also learn to interpret the limits and fits represented on technical drawings.

TRAT1710 PRESSURE CONTROL LOOP
Prerequisites: TRAT1620, TRAT1630
This course provides students with the fundamental knowledge and applied skills to measure, control, and troubleshoot pressure control loops using scales, sensors, transmitters, and controllers.

TRAT1720 PUMP OPERATIONS
Prerequisites: TRCO1120, TRAT1510, TRAT1540
This course provides students with the theoretical knowledge and practical skills required to maintain mechanical pumps in industrial settings.

TRAT1730 MAINTENANCE & LUBRICATION
This course emphasizes the importance of following standard operating procedures in performing industrial maintenance. Students learn to follow maintenance work management systems and procedures. They also learn to demonstrate safe practices during all maintenance activities.

TRAT1740 INTRO TO RF, MW, & RADAR
In this course, students learn the basics of radio frequency (RF) spectrums and radio frequency bands used by the military. They learn about the hazards of RF radiation. Selected basic test equipment and signal generation used in these frequency bands are introduced. Students also learn the basic radar principles in terms of RF signal processing, radar transmitters, radar receivers, and selected RF components used in the microwave (MW) field. Other topics include radar systems technology and RF signal processing and tracking loops.

TRCO1110 WORKPLACE SAFETY
This course provides students with the theoretical knowledge and applied skills required to identify workplace hazards. Students gain practical experience in determining appropriate safety precautions to eliminate or minimize the risk of personal injury, equipment damage, and loss of production.

TRCO1120 FABRICATION HAND TOOLS
Co-requisites: TRCO1110
This course introduces students to the safe use and selection of the hand tools required in the fabrication of electrical and mechanical installation. Working in mechanical and electrical workshops, students develop the applied, practical skills needed to effectively use the hand tools required in tasks such as sheet metal shaping.

Course Descriptions

TRCO1130 POWER TOOLS
Co-requisites: TRCO1110, TRCO1120
This course introduces students to the safe use and accurate selection of the power tools required in electrical and mechanical installations. In a workshop setting, the students learn the practical skills to safely and accurately identify, use, and care for different types of electrical power tools. Hands-on skills developed in this course are reinforced and applied in all subsequent courses.

TRCO1210 BASIC DC THEORY I
Prerequisites: TRCO1110
This course introduces students to the fundamentals of direct current (DC) electrical theory and the hands-on practical use of electrical measuring instruments. Students learn basic principles of electrical circuits and how to safely perform routine electrical measurements. They also learn the fundamentals of Ohm's Law.

TRCO1330 BASIC DC THEORY II
Prerequisites: TRCO1110, TRCO1210
This course continues the learning related to the fundamentals of direct current (DC) electrical theory. Students learn the basic principles of electrical circuits and how to use and manipulate formulas to analyze circuits.

TRCO1340 ELECTRICAL DRAWINGS
Prerequisites: TRCO1210
Co-requisites: TRCO1330
This course introduces students to various drawings used in the electrical industry. Students gain practical applied experience in using drawings to create and trace a circuit.

TRCO1420 SINGLE-PHASE ELECTRICITY
Prerequisites: TRCO1210
This course introduces the principles and characteristics of single-phase alternating current (AC). Students gain the fundamental knowledge to distinguish between direct current (DC) and AC. They learn about capacitators and inductors as well. Students also perform calculations related to single-phase electricity.

TRCO1430 THREE-PHASE ELECTRICITY
Co-requisites: TRCO1420
This course introduces students to the fundamentals of three-phase alternating current. Students develop an understanding of the benefits of three-phase electricity as compared to single-phase electricity. Students apply hands-on skills related to three-phase connections and mathematical calculations.

TRCO1440 CONDUCTORS & CABLES
Prerequisites: TRCO1120, TRCO1130
Co-requisites: TRCO1420
This course introduces students to the characteristics, installation, and inspection of conductors and cables. Course learning activities have been designed to familiarize students with International Electrotechnical Commission (IEC) tables and standards, and to provide them with the applied skills to safely handle conductors and cables.

TRCO1450 ELECTRICAL CIRCUITS
Prerequisites: TRCO1130
This course introduces students to the basic operating principles of an electric circuit. Topics include electrical circuit components, measurement of electrical parameters on alternating current (AC) and direct current (DC) circuits, and the application of electrical laws and principles with regards to measurement control loops, alarm systems, and protection systems.

TRCO1460 POWER SUPPLIES & RECTIFIERS
Prerequisites: TRCO1330, TRCO1340
This course introduces students to the main components, characteristics, applications, and operations of power supplies and rectifier circuits. Students apply practical skills to electrical power supplies, rectifier circuits, chargers, and batteries.

TRCO1510 ELECTRICAL TRANSFORMERS
Prerequisites: TRCO1340, TRCO1430
This course introduces students to the fundamental components, characteristics, applications, and operations of electrical transformers. It provides students with key knowledge and applied skills regarding single and three phase transformers, connections, and basic maintenance checks.

TRCO1520 THREE-PHASE INDUCTION MOTORS
Prerequisites: TRCO1120, TRCO1130, TRCO1340, TRCO1430
This course introduces students to the components, characteristics, applications, and operations of three-phase induction motors. Students gain practical experience in reading and recording information drawn from three-phase induction motors. They also prepare and perform common motor connections.
Working with bearings, students disassemble, change, and re-assemble a three-phase induction motor.

TRCO1530 SINGLE-PHASE INDUCTION MOTORS
Co-requisites: TRCO1520
This course introduces students to the components, characteristics, applications, and operations of single-phase motors. Students engage in hands-on training in installing and operating single-phase motors using fuses and circuit breakers.

TRCO1540 ALTERNATING CURRENT GENERATORS
This course introduces students to the components, characteristics, applications, and operations of alternating current (AC) generators. By applying safe operating procedures, students gain the knowledge and skills to operate AC generators as stand-alone power sources as well as in parallel with other sources of power.

TRCO1550 DIRECT CURRENT MOTORS
Co-requisites: TRCO1530
This course introduces students to the basic components, types, characteristics, applications, and operation of direct current (DC) electrical motors. The students learn how to interpret information pertaining to DC electrical motors, specifically the details found on technical drawings and motor nameplates. They also learn how to control the speed of a DC motor as well as how to change its bearings.

TRCO1560 CIRCUIT BREAKERS & FUSES
Prerequisites: TRCO1110
This course provides students with an overview of the types, applications, and selections of low and high voltage circuit breakers. Students apply knowledge and develop practical skills to remove, install, and administer multiple tests of circuit breakers from training switchboards. As well, they learn to identify the voltage and current ratings of fuses.

TRCO1570 RELAYS & CONTACTORS
Prerequisites: TRCO1340
This course introduces students to the fundamental operations, characteristics, and applications of various electrical relays and contactors. Students learn the basic operating principles for electrical relays and contactors. Students also learn how to draw electrical relays and contactors and how to install and operate them based on circuit drawings.

Course Descriptions

TRCO1580 UPS & INVERTERS
Co-requisites: TRCO1560, TRCO1570
This course introduces students to the fundamental operations, characteristics, and applications of uninterruptable power supply (UPS) systems and inverters. In a hands-on setting, students learn how to connect and operate UPS systems and inverters following safe procedures.

TRCO1590 HAZARDOUS AREAS
Prerequisites: TRCO1110, TRCO1210, TRCO1330, TRCO1340
This course introduces students to hazardous areas of a missile maintenance facility or onboard a naval defense ship. Students gain a practical understanding of hazardous work areas and apply basic principles of protection within hazardous and explosive environments. Safe work practices while operating in hazardous areas are emphasized in this course.

TREM1510 MECHANICAL HAND & POWER TOOLS
Prerequisites: TRCO1110
This course introduces students to common industrial hand tools in order to select and safely use appropriate hand tools to perform given tasks. Students gain experience working with basic measuring, marking, cutting, assembly, and portable power tools.

TREM1610 PRECISION MEASURING TOOLS
Prerequisites: TRCO1110, TRCO1120, TREM1510
This course introduces students to precision measuring tools in order to select and safely use precision measuring tools to perform given tasks. Topics include systems and units of measurement, as well as precision measuring tool selection, operation, calibration, and maintenance.

TREM1620 TECHNICAL DRAWINGS
Prerequisites: TRCO1110, TREM1510
This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students are provided the opportunity to create freehand technical sketches and interpret basic technical drawings.

TREM1630 LIMITS, FITS & TOLERANCES
Co-requisites: TREM1610, TREM1620
This course provides students with an introduction to limits, fits, and tolerances so they can apply these principles in real-time industrial settings. Students use the International Table of Limits and Fits to determine appropriate limits, tolerances, and fits. Students also interpret limits and fits as represented on technical drawings.

TREM1640 BEARING MAINTENANCE & LUBRICATION
Prerequisites: TREM1510
Co-requisites: TREM1610, TREM1620, TREM1630
This course provides students with the applied knowledge required to maintain bearings. Hands-on, practical tasks develop students' skill-sets in working with bearing types, bearing applications, maintenance procedures, lubricants, and lubrication systems.

TREM1650 MAINTENANCE PROCEDURES
This course emphasizes the importance of following standard operating procedures in performing industrial maintenance. Students learn to follow maintenance work management systems and procedures. Students also learn the safe practices used during all maintenance activities.

TREM1660 COUPLING MAINTENANCE
Prerequisites: TREM1510
Co-requisites: TREM1610, TREM1620, TREM1650
This course provides students with the theoretical knowledge and practical skills required to maintain mechanical power transmission systems. Students inspect, maintain, remove, repair, and install couplings, clutches, pulleys, and belts. Students also perform shaft and belt alignments.

TREM1710 SHAFT ALIGNMENT
Prerequisites: TREM1510, TREM1610, TREM1620, TREM1650
This course provides students with the theoretical knowledge and practical skills required to maintain mechanical power transmission systems. Students inspect, maintain, remove, repair, and install couplings, clutches, pulleys, and belts. Students also perform shaft and belt alignments.

TREM1720 SEAL MAINTENANCE
Prerequisites: TREM1510, TREM1610, TREM1620, TREM1660
In this course, students develop the applied, practical skills required to maintain mechanical seals in industrial workplaces. Students inspect, remove, repair, and install mechanical seals and gland packing. This course provides students with the foundational skills for pump, compressor, and internal combustion (IC) engine maintenance.

TREM1730 PUMP MAINTENANCE
Prerequisites: TRCO1120, TREM1620, TREM1650, TREM1660
Co-requisites: TREM1720
This course provides students with the applied knowledge and practical skills required to maintain mechanical pumps in industrial settings. Students demonstrate hands-on, practical skills to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

TREM1740 COMPRESSOR MAINTENANCE
Prerequisites: TREM1510, TREM1610, TREM1620, TREM1640, TREM1650
Co-requisites: TREM1720
This course provides students with the theoretical knowledge and practical skills required to maintain compressors. Students learn how to dismantle, inspect, repair, and reassemble centrifugal, reciprocating, and screw compressors. An introduction to air treatment systems is also covered in this course.

TREM1750 IC ENGINE MAINTENANCE
Prerequisites: TREM1510, TREM1610, TREM1620, TREM1650
This course introduces students to internal combustion (IC) engines and their auxiliary systems. Students also perform basic maintenance procedures on IC engines.

TRET1510 ELECTRO-TECHNOLOGY
This fundamental electro-technical course allows students to use applied learning to discover the basic concepts of circuits specifically related to resistance, capacitance, and inductance. Students learn basic electro-technological theory to perform practical work and develop technical applied skills with regards to alternating current (AC) circuits.

TRET1520 DIGITAL ELECTRONICS
Prerequisites: TRCO1210, TRCO1330, TRCO1420
This course introduces students to the field of digital electronics. Students learn to identify logic symbols and describe a variety of logic functions. Students are introduced to different logic families having radically different electrical characteristics. Throughout the course, students develop applied skills by building and testing a selection of simple digital circuits using common laboratory test tools.

Course Descriptions

TRET1610 ELECTRONIC CIRCUITS (ANALOGUE)
Prerequisites: TRCO1450, TRCO1580
This course introduces the basic operating principles and applications of electronic circuits. Students develop the practical skills required to construct a basic direct current (DC) power supply and to safely install uninterruptable power supply (UPS) systems and chargers.

TRET1620 RADIO FREQUENCY FUNDAMENTALS
This course introduces students to the fundamentals of radio frequency (RF). Students learn about the RF spectrum, RF equipment technology, and RF applications. Through theoretical knowledge about RF, students learn its significance and application to real-world, military settings.

TRET1630 ANTENNAS & TRANSMITTERS
Prerequisites: TRCO1110, TRCO1590
Co-requisites: TRET1620
This course introduces students to the fundamentals of antennas and transmitters. Students gain a foundational understanding of antennas, receivers, and transmitters. They also gain key knowledge of how antennas and transmitters work in wireless data communication systems and their applications to real-world settings, specifically within industrial and military settings.

TRET1640 RADAR PRINCIPLES
This course introduces students to the principles of radar. Students learn the fundamentals of radar, its related technology, and various radar devices. Students learn theoretical knowledge about radar to understand its applications to real-world industrial and military settings.

TRET1650 MICROWAVE SYSTEM APPLICATIONS
Co-requisites: TRET1620, TRET1630
This course teaches students about radio frequency (RF) and microwave system applications. It exposes students to RF systems related to microwave systems. Students learn theoretical knowledge about RF and microwave systems and their applications to real-world, military settings.

TRET1710 ELECTRONIC SIGNALS & SYSTEMS
Prerequisites: TRET1620, TRET1630, TRET1640, TRET1650
This course introduces students to the basics of electronic system telecommunications. Students learn key information about how electronic systems process signals to control or perform an action. Students also learn how electronic systems network to provide data communication signal transmissions for military purposes.

TRET1720 HF, UHF & MW COMMUNICATIONS
Prerequisites: TRET1620, TRET1630, TRET1650
Co-requisites: TRET1710
In this course, students learn the basics of high frequency (HF) and ultra-high frequency (UHF) signals. They learn about microwave (MW) frequency systems that can intercept, analyze, monitor and block specific frequency bands. Students also learn HF, UHF and microwave communication systems' applications and significance to real-world, military settings.

TRET1730 RADAR & EO SENSOR SYSTEMS
Prerequisites: TRET1620, TRET1630, TRET1640
This course introduces students to the fundamentals of electrooptical (EO) sensors. Students gain an understanding of the main workings and key purposes of EO sensors. They learn how radar technology can be combined with EO sensors to increase system applicability for military purposes. Students also gain core knowledge of radar & EO sensor systems' applications to real-world, military settings.

TRET1740 TROUBLESHOOTING COMMUNICATIONS
Prerequisites: TRET1620, TRET1630, TRET1650
Co-requisites: TRET1710, TRET1720
This course teaches students to recognize common issues that occur within communication systems. Students learn the fundamentals of troubleshooting communication network systems. Students also apply knowledge and use tools to identify and solve communication problems of significance to real-world, military settings.

University of Doha for Science & Technology
Academic Catalog 2024 – 2025

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